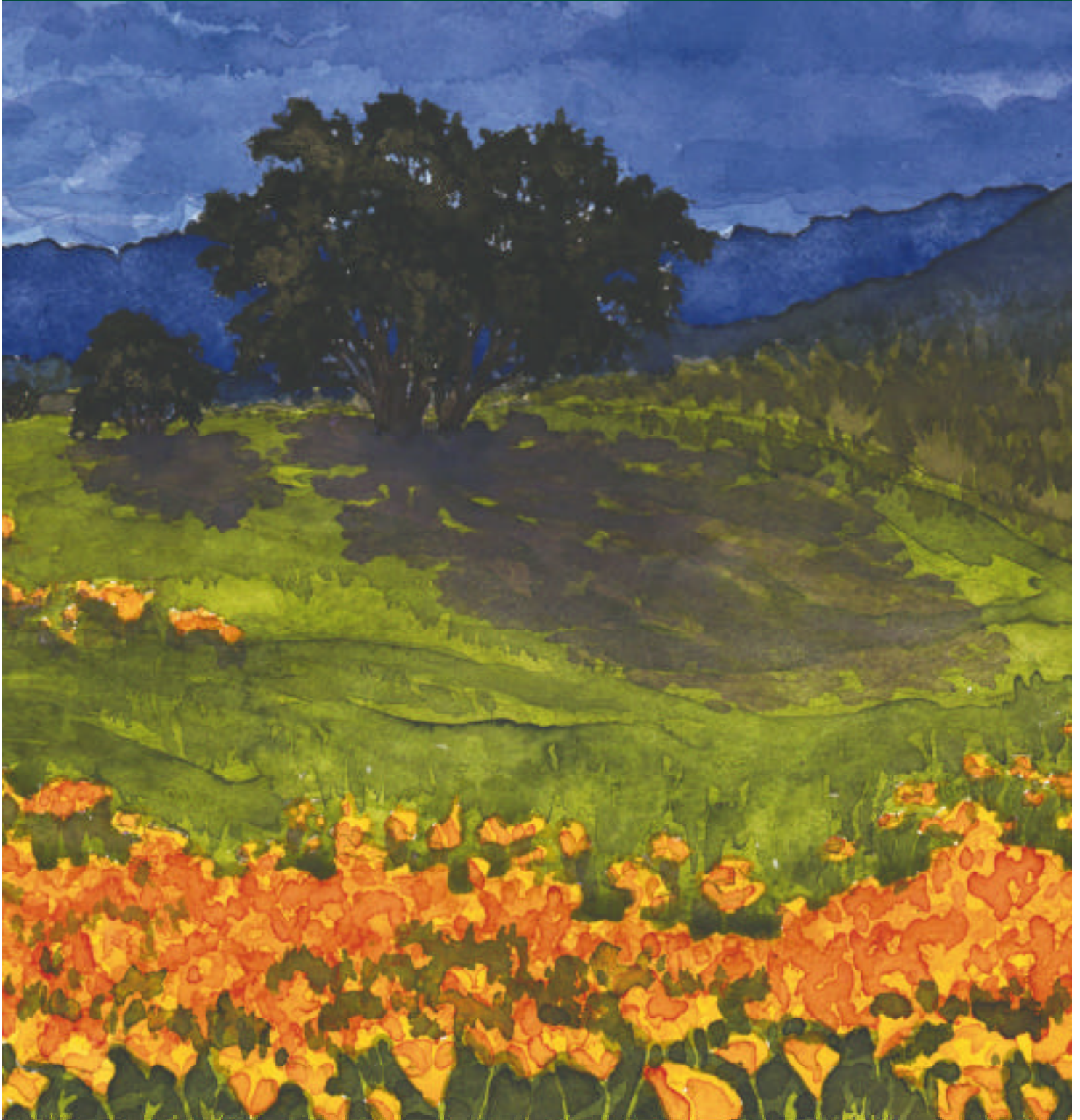


Draft

GENERAL MANAGEMENT PLAN & ENVIRONMENTAL IMPACT STATEMENT



Santa Monica Mountains National Recreation Area ~ California

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A f f e c t e d E n v i r o n m e n t



*Each alternative
has been examined
for its potential
impact on
the environment.*



AFFECTED ENVIRONMENT

Impact Topics

AIR QUALITY

The Santa Monica Mountains National Recreation Area, like most of coastal southern California, has a Mediterranean-type climate. Mediterranean climates are characterized by mild, wet winters and hot, dry summers. Mediterranean climates occur in only five locations throughout the world including the U.S., along the Mediterranean Sea, in central Chile, southern/southwestern Australia, and in South Africa. In fact, the dominant vegetation type in all of these places is also similar in appearance, though unrelated; the scrubby brush is called “chaparral” in California, “maquis” in Portugal, “matorral” in Chile, “heath” in southwestern Australia and “fynbos” in South Africa.

In southern California, January and February are typically the coolest and wettest months and August and September are the hottest. Rainy seasons generally extend from November through May, with dry summers. Overall rainfall varies greatly within and around the Santa Monica Mountains. While mean annual precipitation in Los Angeles is 15.01 inches per year (Civic Center 1877–1987), it can be as much as 30 inches near the crest of the Santa Monica Mountains. Precipitation is also highly variable from year to year. Extended droughts lasting several years punctuated by moderate to extremely wet years are not uncommon.

Wind speeds vary in intensity and duration throughout the year within and adjacent to the Santa Monica Mountains. During summer days airflow is generally directed inland from the west, southwest, south and southeast. At night, airflow patterns reverse and travel toward the ocean. In the fall, and winter, especially, Santa Ana climactic conditions form and there is a pronounced airflow from the northeast down slopes and canyons toward the ocean. Since Santa Ana winds can gust up to 120 miles an hour, some of the most disastrous fires occur during Santa Ana wind conditions in the fall, when the air is dry and the fuel moisture low.

During the summer, another phenomenon known locally as the “marine layer” may decrease visibility throughout the day. Coastal fog is common during the morning hours, but dissipates by early afternoon. Early in the morning inland valleys may be fog-shrouded, but as temperatures increase, the fog dissipates until it crests the mountains and is vaporized or pushed out to sea. This wet “marine layer” or haze of water droplets is often also mistakenly referred to as smog.

Congress recognized the significance of the Santa Monica Mountains, situated between the highly developed Los Angeles Basin, the San Fernando Valley, and the Oxnard Plain, in the recreation area’s enabling legislation. Public law 95-625 specified that “...the Secretary shall manage the Recreation Area in a manner which will preserve and enhance ...its public value as an air shed for the southern California metropolitan area.” Since the 1940s, air quality measurements taken adjacent to the Santa Monica Mountains in urban Los Angeles have been among the worst in the United States.

Atmospheric circulation patterns influence the intensity of smog in southern California. The development of especially strong temperature inversions, which inhibit vertical air mixing, occurs especially during the summer months. In the presence of temperature inversions, visibility is greatly decreased and pollutants are trapped close to the ground in the basins of the Los Angeles metropolitan area. Lower air quality occurs during the summer due to the combination of persistent, strong inversion layers with intense solar radiation, which increase the photochemical reactions that contribute to the amount of ozone produced. During the winter, lower weakened inversion layers, a result of less intense solar radiation, dissipate during winter afternoons as direct solar radiation reaches a peak and heats the ground surfaces, causing air to rise and creating convective air currents.

Air quality in the vicinity of the Santa Monica Mountains varies widely as a result of physiography, climatological conditions, the location or presence of an inversion layer, distance from the coast and the amount of pollutants emitted into the atmosphere. Overall, coastal areas experience better air quality than inland interior valleys and the Santa Monica Mountains exhibit better air quality than the surrounding urban landscape. As a result of air quality standards instituted with the California Clean Air Act, air quality has improved in the Los Angeles area since monitoring began (SCAQMD 1993). However, localized air quality in the mountains would likely continue to degrade as long as expanding development results in increased traffic volumes in and around the mountains.

The ecological effects of poor air quality in the Santa Monica Mountains are not well known, although it is clear from studies in other parts of southern California that declining air quality does impact native plant communities. For example, pollutants contribute to nitrogen deposition on foliage, which in turn can favor the invasion of natural communities by exotic plants and also causes a decline in water quality. This has been a significant problem in coastal sage scrub areas in other parts of southern California. In the Santa Monica Mountains, prevailing winds keep the air relatively clean, so similar impacts are likely not as severe. However, more research is necessary to definitively ascertain these and other ecological impacts from air pollution in the SMMNRA.

NOISE

According to the *Merriam-Webster* dictionary, noise is defined as any sound that is undesired or interferes with one’s hearing of something. Noise pollution is defined as annoying or harmful sound in an environment.

Sound is the result of pressure waves created from objects being set into vibration. The range of magnitude from the faintest to loudest sounds humans can hear is so large that sound pressure is expressed on a logarithmic scale in units called decibels (dB). Under the logarithmic dB scale, two noise sources, each omitting a noise level of 60 dB, combine together to yield a noise level of 63 dB (not $2 \times 60 = 120$ as one might expect). In other words, a doubling of the noise source produces only a 3-dB increase in the sound pressure level. Noise studies have shown that this increase is barely detectable by the human ear. To simulate how humans hear various frequencies of sound, the overall frequency spectrum is measured as A-Weighted dB (dBA). These are physical sound measurements (of pressure waves) that can be made with sensitive instrumentation. Loudness, on the other hand, refers to how individual humans subjectively judge a sound.

Noise levels from traffic depend on several factors, including:

- volume
- speed
- percentage of trucks
- topography
- distance from the roadway to the receptor
- condition of roadway and vehicle(s)

Generally, an increase in volume or speed would increase traffic noise levels. Distance is an important factor as noise levels diminish rapidly with increasing distance from the source. Sound intensity decreases in proportion with the square of the distance from the source. For a point source such as stationary construction equipment, noise levels would decrease 6 dBA for every doubling of distance. Sound levels for highway line sources vary differently with distance, because sound pressure waves are propagated all along the lines and overlap at

the point of measurement. A long, closely spaced continuous line of vehicles along a roadway becomes a line source and produces a 3 dBA decrease in sound level for each doubling of distance.

Noise Standards

Environmental noise is commonly expressed as the equivalent sound level (L_{eq}), which can be considered the average noise level. L_{eq} places more emphasis on occasional high noise levels that accompany and exceed general background noise levels. L_{eq} measured over a one hour period is the hourly L_{eq} ($L_{eq(h)}$), which is the standard the Federal Highway Administration (FHWA) uses for roadway noise impact and reduction analyses. Related levels of noise impact measurement are defined as follows:

- **L_{max}** – the instantaneous maximum noise level that can occur during any period of time. Usually a single event of short duration.
- **L_{min}** – minimum sound level during a period of time.
- **L_{10}** – sound level that is exceeded only 10percent of the time.

Applicable noise regulations and guidelines provide a basis for evaluating noise impacts.

The current FHWA procedures for highway traffic noise analysis and abatement are contained in 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise". These procedures indicate that a traffic noise impact occurs when the predicted levels approach or exceed the noise abatement criteria (NAC) or when predicted traffic noise levels substantially exceed the existing noise level, even though the predicted levels may not exceed the NAC. The FHWA Noise Abatement Criteria for various areas are defined in Table 10.

Table 10

FHWA NOISE ABATEMENT CRITERIA (NAC) Hourly A-Weighted Sound Level in Decibels (dBA)*			
Activity Category	$L_{eq}(h)$	$L_{10}(h)$	Description of Activity Category
A	57 (Exterior)	60 (Exterior)	Lands on which serenity and quiet are of extraordinary significance
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above
D	—	—	Undeveloped lands
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums

* Either $L_{eq}(h)$ or $L_{10}(h)$ (but not both) may be used on a project.

The vast majority of the lands within the SMMNRA fall within Category B. A small portion of the lands within the SMMNRA, such as commercial property, fall within Category C. The criteria for Category B are 67 dBA. The criteria for Category C are 72 dBA. The FHWA considers a noise impact to occur if predicted $L_{eq}(h)$ noise levels approach within 1 dBA of the noise abatement criteria, which in this case would be 66 dBA for most park lands and 71 dBA for commercial areas.

Critical Receptors

The critical noise receptors within the SMMNRA that meet the criteria of Category B would include the recreation area lands along the road corridors, trailheads and trails located at various sites throughout the SMMNRA. Other visitor-use facilities within the recreation area and residences along the road corridors (most of which are located more than 60 meters from the road) also qualify. The areas that would meet Category C requirements include commercial establishments along the Pacific Coast

Highway (PCH) (some of which are located within 60 meters of the roadway). Other locations similar to these in condition and proximity to the highways could expect the same noise levels.

Noise Level Estimates

No actual noise measurements were made as part of this draft GMP/EIS evaluation. Instead, noise estimates were made using the FHWA noise-estimating procedure outlined in FHWA-RD-77-108. This procedure estimates traffic noise using the traffic volumes and the number of large and medium trucks in the traffic mix. Table 11 presents the results of this noise estimating process.

The noise estimate locations were selected where traffic noise from a road corridor within the SMMNRA is dominant and these locations are thus representative of other sensitive receptors within the corridor. The dominant source of noise within the SMMNRA is assumed to come from automobile and truck traffic on the

major road corridors. Other noise sources include aircraft flyovers, traffic on minor roads and residential streets within the communities, and construction activities.

The estimates in the table indicate that several areas currently have road noise that is near or exceeds the NAC of 67 dBA for Category B and 72 dBA for Category C.

Natural Resources

Soils and Geology

The Santa Monica Mountains are the southernmost mountain chain in the east-west trending, or transverse ranges of southern California. Numerous faults, folds, down warps and a complex geologic structure characterize the transverse ranges. Their structure could be attributed to the effects

of plate tectonics, as the continental North American plate and the oceanic Pacific plate collide. The San Andreas Fault delineates the northern boundary of the transverse ranges.

An extraordinary number of deeply incised north-south trending canyons drain from the mountains into the Pacific Ocean. More than 40 separate watersheds are encompassed within the SMMNRA boundary. This range, some 46 miles long, incorporates coastal, valley and mountain geomorphology. The full range of geologic composition is present. The western end of the mountains is igneous (extrusive volcanic). It shifts in the east to a sedimentary base, and the eastern end of the range contains metamorphic and older plutonic (intrusive) rocks. The mountains are considered to be a large symmetrical anticline, with the steepest plunge situated near Griffith Park. The Santa Monica Mountains average 7.5 miles in width

Table 11

NOISE LEVEL ESTIMATES				
Route	From	To	1998 ADT	Estimated Noise Level* $L_{eq}(h)$
U.S. Hwy 101	Las Virgenes Rd.	Kanan Rd.	183,200	73.8
Mulholland Hwy.	Topanga Canyon Blvd.	Old Topanga Canyon Rd.	7,400	60.8
Mulholland Hwy.	Topanga Canyon Blvd.	Malibu Canyon Rd.	2,800	58.8
Mulholland Hwy.	Kanan Dume	SR 23	150	56.6
PCH	I-10	Sunset Blvd.	68,700	69.5
PCH	Malibu Canyon Rd.	Kanan Dume	26,000	64.5
PCH	SR 23	Point Mugu	10,800	63.0
Topanga Canyon	PCH	Mulholland	14,200	62.1
Malibu Canyon Rd.	PCH	Mulholland	22,800	67.5
Kanan Dume Rd.	PCH	Mulholland	10,700	60.5
SR 23	PCH	Mulholland	1,000	53.5

* Estimated noise level is based on the noise generated by evening peak hour traffic volumes at a location 60 meters from the center of the closest travel lane.



and have a mean elevation of 1000 feet. The highest point is Sandstone Peak (actually a volcanic formation) with an elevation of 3,111 feet; the lowest points are, of course, at sea level.

The overall appearance of the Santa Monica Mountains is steep and rugged, with low valleys spaced intermittently along the north and south slopes. Malibu Creek is the only drainage that cuts through the mountains, draining both the Simi Hills and the Santa Monica Mountains. There are no natural lakes, but streams, springs, and seeps are common and widespread.

The Santa Monica Mountains are naturally prone to landslides due to an unstable combination of steep slopes and often poorly cemented sedimentary rock. More than 2,000 quaternary landslide deposits are still apparent in the Santa Monica Mountains and Simi Hills. The ancient quaternary slides represent major events. However, smaller high frequency slides and slumps continue to occur. The 1994 Northridge earthquake alone triggered more than 1400 individual landslides within the mountains (USGS 1995). Landslides of any size have the potential to destroy or damage homes, roads, and utility lines. Residential irrigation and septic tanks have exacerbated the problem – particularly along the coast – by adding water to expansive clay soils.

Debris flows are a type of stream flow that occur with some regularity in the Santa Monica Mountains, where sufficient sediment mixes with the water flow to form a thick slurry of water, soil, and rock with great destructive power. The necessary environment for debris flows is a relatively steep stream channel, a generous supply of sediment from the streambed or adjacent slopes, and sufficient rainfall to mobilize them. Though naturally occurring in the Santa Monica Mountains, debris flows are

aggravated by any disturbance of slopes, soils or vegetation, including roads, housing pads, fire control lines, and fires. The intense development surrounding the Santa Monica Mountains has also altered the natural regime. As streams are channeled and formerly permeable soil is covered with impervious concrete and blacktop, both the amount and velocity of storm runoff is increased, thus increasing the likelihood of debris flows.

The Santa Monica Mountains incorporate the greatest geological diversity of all major mountain ranges within the transverse range province. The mountains are a complex assemblage of marine and non-marine deposition. The topographical relief is a result of differential erosion and plate tectonics (e.g. uplifting, folding and faulting).



Slope failure in Topanga Canyon (NPS photo).



Castro Crest
(NPS photo).

The oldest rocks in the Santa Monica Mountains are the Santa Monica slates, a metamorphic, marine sedimentary rock of mid-Jurassic origin. Marine-deposited shales and greywacke were metamorphosed by granitic intrusions, forming the black slates, phyllite, spotted slate, and fine-grained schist typical of this formation. The slates make up the basement rocks for the western and central Santa Monica Mountains and are exposed extensively in the range, east of Topanga Canyon. Granitic intrusives were formed as part of the same Mesozoic event that produced the massive granitic batholiths in the Sierra Nevada (Norris and Webb 1978). These granitic intrusions also formed the basement rocks of the eastern Santa Monica Mountains. They are exposed northwest of Hollywood and around Cahuenga Peak. Following the granitic intrusions, the slates were uplifted and gradually eroded until the late Cretaceous. Subsequently, a period of continuous deposition began as the spreading sea began depositing conglomerates, sandstone and shale. Although this deposition was primarily of marine origin, there were short periods of terrestrial deposition. Two depositional events from this period are the Trabuco and Tuna Canyon formations. The thin Trabuco formation consists primarily of conglomerates. The Tuna Canyon formation represents both marine and terrestrial deposition and includes deposits of turbidites (marine sandstone), slate, siltstone and conglomerates. This fossiliferous formation also contains foraminifera, mollusks and ammonites.

The primary uplift, erosion of elevated formations and depositional sea occurred during the Cenozoic era. The Coal Canyon (Martinez) formation represents a period of extensive deposition that resulted in marine shale, conglomerate, sandstone and siltstone. These sediments accumulated to a maximum thickness of 8,500 feet. Some fossils, characterized by the gastropod *Turritella pachecoensis*, occur in the Coal Canyon formation.

From the late Eocene to the early Miocene, a non-marine flood plain deposit of up to 3,500 feet deep was formed. The Sespe formation, or “red-beds,” characterizes this outcropping, consisting mainly of sandstone, siltstone, shale and conglomerates. The flood plain condition persisted until the upper Oligocene, when the seas passed over the site of the present Santa Monica Mountains. Changes in the earth’s crustal behavior occurred as a result of plate tectonics (Vedder and Howell 1980). There was a change in the Pacific and North American plate movements from convergent to right lateral shear, which caused a change in the topography of southern California from a shelf comprised of depositional landforms to the ridges and basins present today.

By the middle Miocene, this sedimentary phase was disrupted with a period of massive volcanic deposition in the western Santa Monica Mountains. In the lower Miocene, major sedimentary deposits, including the Vaqueros formation, Simi, Lajas, Calabasas, Trabuco, Tuna Canyon and the Topanga formations occurred.



Subsequent to the Miocene deposition, extensive intrusive and extrusive volcanic activity occurred during the middle Miocene in the Santa Monica Mountains. Volcanic formations from this period are called the Conejo Volcanics and are composed of alternating layers of andesitic and basaltic flow-breccias, mudflow-breccias, flows, pillow-breccia and aquagene tuffs, overlying the Topanga Canyon formation (Raven, Thompson and Prigge 1986 from Yerkes and Campbell 1979). The Conejo Volcanics are exposed extensively in the western part of the Mountains, but exist only in a few locations east of Topanga Canyon.

In the late Miocene, subsequent to the Conejo Volcanics, the sandstone, siltstone and sedimentary breccias of the Calabasas formation (western and central Santa Monica Mountains) were deposited. Additionally, 4,500 feet of marine diatomite, shale, sandstone, chert and basal conglomerate deposits resulted in the Modelo formation. These episodes during the late Miocene represented some of the greatest encroachment of the sea in the vicinity of Ventura and Los Angeles.

The geology of the area south of the Malibu coast fault differs from that of the rest of the Santa Monica Mountains (Yerkes and Campbell 1979). This area includes the coast west of Carbon Canyon and Point Dume. The Trancas and Zuma formations that occur here do not occur in the rest of the range, but the Monterey form does occur elsewhere. The Trancas formation is a mixture of sedimentary marine rocks, including sandstone, mudstone, siltshale, claystone and breccia. The Monterey formation is composed of shale and the Zuma formation is volcanic and consists of basaltic and andesitic flows, breccias, pillow lavas, mudflow breccias and aquagene tuffs.

This early to middle Miocene volcanic formation is similar to and correlates with the Conejo Volcanics.

Thick beds of shale, sandstone and clay continued to accumulate during the Pliocene. The Pico formation, characteristic of this period, has a maximum thickness of about 1,000 feet. Vedder and Howell (1980) estimated that the sea was nearly 4,900 feet deep near Ventura and up to 8,200 feet deep near southeastern Los Angeles. The Santa Monica Mountains were a chain of islands within this Pliocene sea. During this era, they were uplifted and eroded to their present form (Bailey and Jahns 1954, Dibblee 1982). In the Pacific Palisades, where deep canyons have been cut through the thick Pleistocene alluvium, Pliocene rocks – soft claystone, siltstone and sandstone – are exposed.

In the early quaternary, more uplift occurred and the area has remained in a dynamic erosional-uplift cycle. This cycle has resulted in extensive alluvial fan deposits surrounding the Santa Monica Mountains in the Los Angeles Basin, San Fernando Valley and Oxnard Plain and fluvial sand and gravel deposits along major stream courses. On the south side of the mountains, remnant sandy marine terraces at Malibu Creek and Point Dume represent former shorelines. Uplift of the Santa Monica Mountains continues today at the rate of one inch per thousand years (measured at Point Dume) and occurs as a direct result of compression plate tectonics, manifested as the numerous small and occasional large earthquakes felt in southern California. Erosive processes (e.g. landslides, gullyng, debris flows, etc.) are the converse result of this rapid uplift.

The Natural Resources Conservation Service is currently mapping 15 general soil associations and consociations in the Santa Monica Mountains. These include the following:

- Camarillo Consociation (1)
 - Chumash-Boades-Malibu Association (4)
 - Cotharin-Talepop Association (3)
 - Corralitos-Coastal Beach Association (1)
 - Elder Consociation (2)
 - Kayiwish Association (2)
 - La Jolla Consociation (2)
 - Mipolomol-Topanga-Rock Outcrop Complex (4)
 - Pacheco Consociation (1)
 - Sulfic Fluvaquents, frequently flooded, Consociation (1)
 - Cumulic Haploxerolls-Riverwash Association (2)
 - Topanga-Mipolomol-Sapwi Association (4)
 - Zumaridge-Greenbark, moderately deep-Rock Outcrop Complex (4)
 - Castaic-Linne-Los Osos Association (5)
 - Gazos-Lockwood-Rincon Association (6)
- (1). The geomorphic areas in which they occur can identify these soil groupings. The first geomorphic grouping is the outwash plain of Calleguas Creek, which occurs in the extreme western area of the recreation area near Point Mugu Pacific Missile Test Center (U.S. Navy). These are level, somewhat poorly drained soils that formed in alluvium from mixed rock sources. These areas are in the tidal flood plain of Mugu Lagoon or within the military facility.
- (2). The second geomorphic grouping is the mountain valley fan remnants and axial stream flood plains within the mountains themselves, such as La Jolla Valley and

Serrano Valley. These are moderately sloping to gently sloping, moderately well to well-drained soils that formed in alluvium, residuum and colluvium from sedimentary rock sources and/or basic igneous rock sources.

- (3). The third geomorphic grouping is found within igneous hills and mountains such as Sandstone Peak. These are moderately sloping to very steeply sloping, well-drained soils that formed in residuum and colluvium from basic igneous rock sources.
- (4). The fourth geomorphic grouping is the non-marine sedimentary shale and sandstone hills and mountains such as Castro Peak and Laguna Peak. These are moderately sloping to very steeply sloping, well-drained soils that formed in residuum and colluvium from shale and sandstone.
- (5). The fifth geomorphic grouping is the marine sedimentary shale and sandstone hills, such as the Simi Hills. These are moderately sloping to steeply sloping, well-drained soils that formed in residuum and colluvium from marine sediments.
- (6). The sixth geomorphic grouping is the Malibu Plain and other ocean terraces and alluvial fans adjacent to the ocean. These are the gently to moderately sloping, well-drained soils that formed in alluvium from mixed rock sources.

Another important concern is the shrink-swell behavior and erodibility of soils throughout the mountains. Ungraded, native soils in lowlands exhibit the highest potential for shrinkage and swelling, and would have to be removed or extensively modified before development could occur. A majority of these features may be attributable to the erosion characteristics of the underlying bedrock. Rocks and soils prone to instability include alluvium, terrace deposits, shale, metamorphic schist and siltstone.



Soil erosion typically results from concentrated runoff on unprotected slopes or along unlined stream channels. Soil erosion has largely been reduced throughout much of the urban areas due to soil coverage by paved development. The SMMNRA could experience substantial erosion from runoff if the vegetation cover is destroyed by brushfire or removed by grading operations.

The project area, like all of southern California, is located in a highly active tectonic region where strong ground shaking results from earthquakes on nearby or more distant faults. The potential seismic effects that would be expected in the SMMNRA include the potential for ground ruptures along fault lines, damage to structures due to seismically induced ground shaking, potential for vertical amplification of the earthquake's energy, and earthquake-induced liquefaction. The criteria followed relative to fault activity are those enacted by the state of California and utilized by the California Division of Mines and Geology (CDMG) in the Alquist-Priolo Act. This act establishes special study zones for active or potentially active faults to prevent the construction of urban development on the surface trace of active faults. According to the state of California, an active fault is described as having evidence of surface rupture within the last 11,000 years (Holocene time).

Numerous generally east-west trending faults occur within this area of the Santa Monica Mountains. According to the *Santa Monica Mountains North Area Plan* (1999), (NAP), the northern portion of the project area consists of no active faults, but is subject to surface ruptures during earthquakes along nearby faults. Along the southern portion of the project area, the Malibu coast fault has been mapped along the coast generally paralleling PCH. Portions of this fault have been identified as active, according to the state of California, and have been included

within an Alquist-Priolo fault rupture hazard zone. The Sycamore Canyon and Boney Mountain faults have been mapped on the extreme western portion of the project area and are considered to be potentially active by the state of California. Numerous other faults have been identified within the eastern portion of the project site resulting from continuing uplift within the Santa Monica Mountains, and southern California in general.

Ground shaking resulting from earthquakes within the project area may create fractures to the bedrock in any given area. The impact of seismic forces on bedrock is dependent upon its proximity to the earthquake epicenter (e.g., bedrock located on the fault may be affected more than bedrock located some distance from the fault) and material strength. These forces could cause changes in the geologic structure of bedrock and may cause preferential directions of fractures or joints in bedrock.

Besides directly damaging structures, roadways, and utilities, earthquakes could trigger landslides in unstable areas, endangering lives and property. Because of local groundwater and soil conditions, liquefaction is another potential hazard in localized areas with high groundwater and sandy soils. Liquefaction is the process in which solid granular materials behave for a short time as a dense fluid, rather than as a solid mass, which results in a potential for permanent ground displacements. Conditions favorable to liquefaction of soil are (1) thick deposits of highly saturated, loose, granular material, (2) an unconfirmed groundwater condition, and (3) sudden seismic loading.

Several active and high potential landslides have been identified within the SMMNRA area based on a review of historic aerial photographs, field investigations, and maps contained within the joint "Seismic Safety Study" of Los Angeles County and

Ventura County. The Santa Monica Mountains are notorious for slope instability and land sliding. Over-steepening of the slopes, in addition to erosion of canyons and drainages, has created a landscape that is highly susceptible to slope failure.

Shallow slope failures such as mudslides and slumping have occurred where graded cut and fill slopes have been inadequately constructed. Mudslides have the potential to occur with great suddenness and destructive force, thereby constituting a significant threat to life and property in the hillside areas. Soil slumping is a slower process that could also potentially cause extensive structural damage, as well as rockfall areas located at the base of steep slopes which have fractured rock outcrops or large exposed boulders.

Water Resources

The aquatic resources of the Santa Monica Mountains are very diverse. Dozens of north-south canyons parallel each other throughout the mountains. Each of these has an intermittent or perennial stream, with associated riparian vegetation lining it. In addition, there are a large number of east-west trending drainages coming down the slopes of these canyons. **Figure 10** illustrates the intermittent and perennial streams within the SMMNRA.

The drainage network for the Santa Monica Mountain Zone (SMMZ), which is the overall region that extends beyond the boundaries of the recreation area, is comprised of numerous major arterials and tributaries that reflect a high degree of organization. A total of 828 stream segments can be identified from USGS Quadrangle maps of the SMMZ. These include 179 major streams with 49 coastal outlets. Within the SMMZ are a total of 656 first order stream segments, 137 second order, 29 third order, five fourth order, and one fifth order stream. The first order segments are generally of short

duration, flowing in a relatively straight course with origins in the higher elevations. The higher the stream order, the greater a stream's tendency to travel greater distances and increase its sinuosity.

The largest watershed located completely within the SMMZ is the Malibu Creek watershed. It contains a total of 105 square miles and incorporates several major drainage basins (Medea Creek, Triunfo Creek, Cold Creek, Malibu Creek, Sleeper, Las Virgenes, and Potrero Valleys). The Malibu Creek watershed contains a total of 225 stream segments within six major drainages.

Conversely, the smallest stream courses in the Santa Monica Mountains are the isolated drainages. These streams represent those segments, which are unnamed on USGS Quadrangle maps and in most cases, are only first order streams. This group comprises 17 percent of all streams and consists of 131 segments.



*Freshwater
stream in the
SMMNRA
(NPSphoto).*



A wide variety of wildlife and localized plant communities can be found associated with the streams of the Santa Monica Mountains. These include at least two populations of wild trout, including one of the southernmost runs of the endangered steelhead (*Oncorhynchus mykiss*) in the U.S., a diverse array of aquatic insects, remnant populations of big leaf maples (*Acer macrophyllum*), cottonwoods (*Populus* sp.) and alder (*alnus* sp.). The arroyo chub (*Gila orcutti*) is found in Malibu Creek and the tidewater goby (*Eucyclogobius newberryi*) was recently reintroduced (1991) to Malibu Lagoon.

In creeks that feed from the developed recreational/water supply lakes in the mountains, a variety of non-native fauna have been introduced. This is a significant concern throughout southern California. For example, at least 28 species of non-native fish have become established in southern California streams (USFWS 1989). In Trancas Creek in the Santa Monica Mountains, goldfish, largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*) have all been observed. In the Malibu Creek drainage, including Malibu Lagoon, largemouth bass, black bullhead (*Ictalurus melas*), green sunfish (*Lepomis cyanellus*), mosquito fish (*Gambusia affinis*), Oriental shrimp (*Palaemon macrodactylus*) and crayfish (*Procambarus clarkii*) are known to occur. Recent research has demonstrated the serious consequences of the presence of several of these introduced species for native aquatic species populations (Gamradt and Kats 1996; Goodsell and Kats 1999).

Runoff generated from developed areas has placed increasing pressure on the existing fresh water resources. Runoff from urban developments (e.g., roads, parking lots, residential areas) generally contributes more runoff, more quickly and with higher concentrations of pollutants than pre-development areas. The runoff from the

developed areas could contain elevated levels of nutrients (such as phosphorous and nitrogen), pathogens, toxicants (e.g., heavy metals), and litter and trash loads. The impacts of these pollutant inputs on the health of the fresh water systems could be minimized through effective management of runoff from developed areas.

Flood Plains

Within the Santa Monica Mountains most of the 100 and 500-year flood plains have not been delineated because the watersheds have not been extensively developed. In areas with the greatest development, however, flood plains were delineated for the FIRMS program (Flood Insurance Rate Maps). Most of these maps for Los Angeles and Ventura Counties have been acquired and are currently on file at park headquarters. The coverage for Ventura County is extremely limited, and those areas where delineations were made are mostly in the preliminary phase of development. Those panels, which are completed and printed, have been acquired. The FIRM maps do not take into account debris flows, which could exceed the elevations of water-based flows and rapidly change channel geometry.

Debris flows are a type of stream flow that occurs with some regularity in the Santa Monica Mountains, where sufficient sediment mixes with the water flow to form a thick slurry of water, soil and rock with great destructive power. With water content of about 450%, these debris flows have tremendous weight, and are so viscous that they could carry boulders several feet in diameter. The necessary ingredients for debris flows are a relatively steep stream channel, a generous supply of sediment from the streambed or adjacent slopes, and sufficient rainfall to mobilize them. The management significance of debris flows are that they commonly exceed the levels of

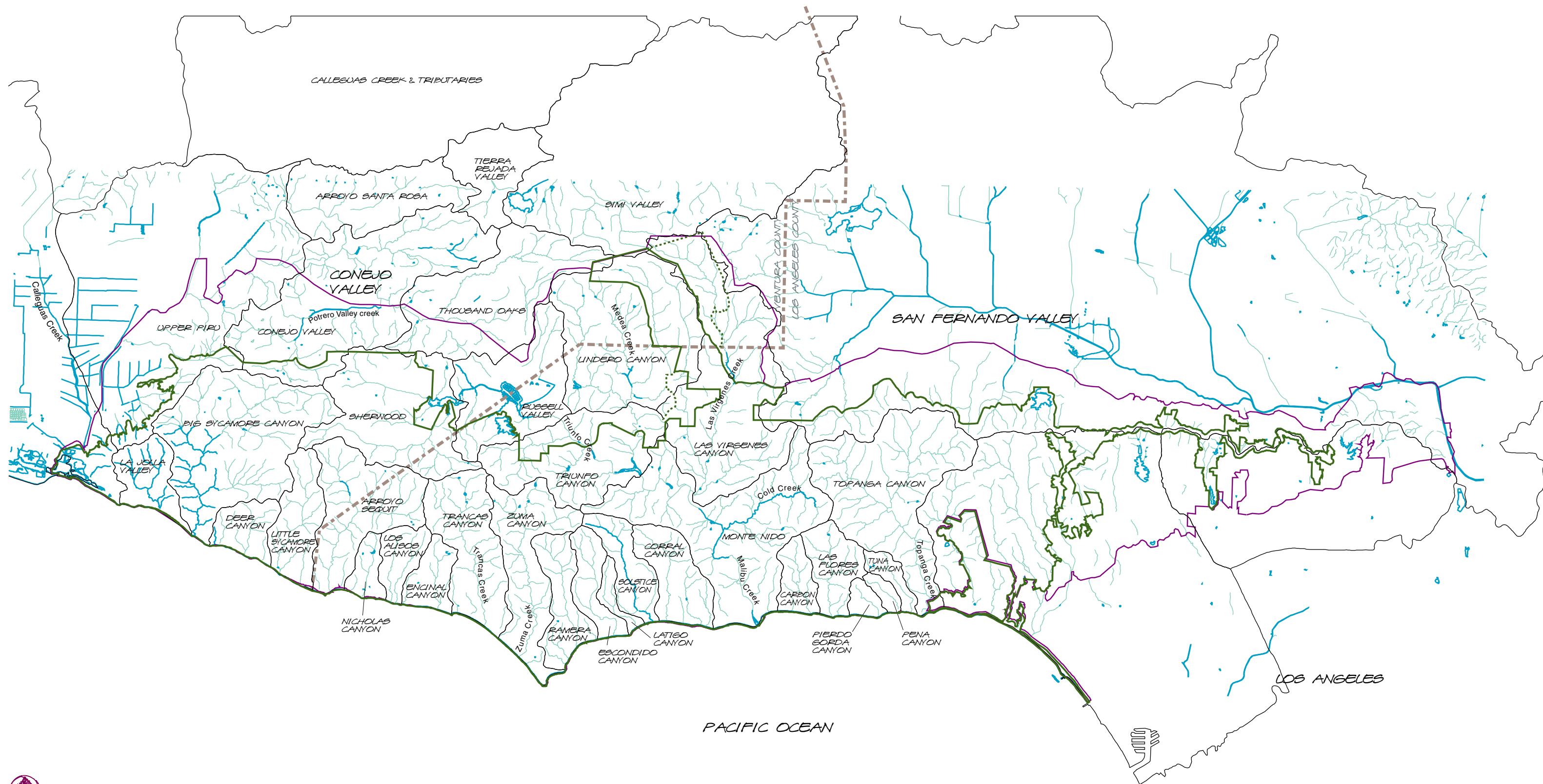


FIGURE 10:
WATER RESOURCES
SANTA MONICA MOUNTAINS
NATIONAL RECREATION AREA
CALIFORNIA

INCLUDES UNITS OF NPS, CALIFORNIA STATE PARKS,
 AND THE SANTA MONICA MOUNTAINS CONSERVANCY
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ENDANGERED STEELHEAD TROUT

THE NATIONAL MARINE FISHERIES SERVICE declared the southern steelhead trout as an endangered species in August 1997. Within the park, self-sustaining populations of southern steelhead trout once resided in Calleguas, Big Sycamore, Arroyo Sequit, Zuma, Malibu, Solstice and Topanga Creeks, to mention a few. Today, however, only a small number of steelhead trout spawn in Arroyo Sequit and Malibu creeks. One of the primary reasons for the severe decline in steelhead numbers is the creation of innumerable human-made barriers to steelhead migration, such as road culverts, Arizona crossings, and small and large dams.

To meet this challenge, each alternative would incorporate goals for removing or modifying barriers to migrating southern steelhead trout in all Santa Monica Mountains National Recreation Area creeks where steelhead currently survive or were once present. The park would continue to work with numerous federal, state, and local partners and the general public to achieve the goal of removing or modifying barriers to migrating steelhead throughout the park. Two critical steelhead restoration projects are highlighted below.

Restoration of the Solstice Creek steelhead would be accomplished by providing access to habitat above two highway culverts, four Arizona crossings, and several human-made ponds that block passage of steelhead moving up and down stream. This project would provide cost-effective removal or modification of all significant barriers to migrating steelhead in Solstice Creek.

The key to restoration of Malibu Creek southern steelhead trout lies in providing access to habitat above Rindge Dam. The single most significant impediment to the restoration of the Malibu Creek run of steelhead trout is the 102-foot high Rindge Dam in the creek about 2.5 miles upstream from the Pacific Ocean. To address this problem, the U.S. Army Corps of Engineers and the California Department of Parks and Recreation are cooperating on the *Malibu Creek Environmental Restoration Feasibility Study EIS*. The study would evaluate the impacts of five alternatives on recovery of steelhead in Malibu Creek and the beneficial use of accumulated sediment stored behind the dam.



predicted floods (because they have up to 2.5 times the volume of floods consisting of water alone), and they tend to drop sediment in inopportune places such as culverts, buildings, stream channels and roads.

Though naturally occurring in the Santa Monica Mountains, debris flows are aggravated by any disturbance of slopes, soils or vegetation, including roads, housing pads, fire lines and fires. The Los Angeles County Department of Public Works (LACDPW) considers flooding conditions to be the occurrence of a fifty-year rainfall. In the Santa Monica Mountains, this is 12–15 inches of rain in a 24-hour period. Isohyetal maps of this area, show this occurs at the higher elevations and this amount of rainfall requires a longer time span to occur at the lower elevations. Flooding, however, is not only a factor of the amount of rainfall. Fires, construction projects, previous rainfall immediately prior to a heavy rainfall and other factors could contribute to flooding. The FIRM maps do not give any indication of the sequelae (resultant conditions) of flooding such as erosion, silting or debris flow. In contradistinction to Los Angeles County, they only deal with 100- and 500-year rains. However, the LACDPW in its *Hydrology and Sedimentation Manuals*, 1991, identifies the soil types and debris and sedimentation formation relative to the rainfall zone. Computer programs are available from LACDPW to calculate storm flows in various watersheds.

The uses of the water resources in the SMMNRA are extremely varied. Recreational uses near saltwater or freshwater areas could range from direct contact to no contact. Direct contact recreation at the saltwater beaches includes swimming, surfing, scuba diving, snorkeling, bathing, tidepool visiting and water play. In the freshwater resources, direct contact activities include swimming

and water play. The non-contact water recreation for saltwater areas includes fishing, boating, sailing, whale watching, surf fishing, sun bathing, picnicking, and beach sports such as volleyball. Freshwater noncontact activities include fishing, nature walks, picnicking, birding and sailing model boats.

Natural habitat use of water is equally varied. The warm freshwater habitats, including wetlands, are productive habitats for sedges, tules and cattails. The wildlife using these wetlands includes the great blue heron, peregrine falcon, red-winged blackbird and western aquatic garter snake. The riverine fresh water habitat contains steelhead and rainbow trout, and introduced species such as bluegill, green sunfish and large mouth bass. Other species in this system are southwestern pond turtle, California slender salamander, California newt, Monterey ensatina, arboreal salamander, California toad and Pacific tree frog. There is barrier free access to the ocean at the mouths of many of these riverine habitats. The salt wetlands such as Malibu Lagoon and Mugu Lagoon are breeding grounds for many small fish, and the tidewater goby resides in Malibu Lagoon. Mugu Lagoon additionally is a breeding ground for the harbor seal. The California least tern, brown pelican and Belding's savanna sparrow are among the residents of these areas. The mammalian wildlife uses the fresh water for drinking. There are carnivores such as mountain lions and bobcats. Coyotes, deer and much other wildlife are also present in this area. Rodents, reptiles, amphibians and insects, too numerous to mention, survive in the SMMNRA on the fresh water springs, seeps and surface waters. Reclaimed water is used for irrigation of hay and alfalfa fields as well as golf courses and other lawn areas. The ground water is recharged in percolation



HOT, DRY SUMMERS and mild, wet winters characterize the park's Mediterranean-type climate with moderate to heavy rainfall that creates major ecological and environmental impacts. The importation of water from outside the Los Angeles basin has dramatically changed forever the relationship of humans to the water resources in this semi-desert environment that receives an average of only about 15 inches of rainfall per year. With imported water, human population densities changed dramatically from only about 10 people per square mile to several thousand people per square mile. As a result of increasing population, urban encroachment and development have become the greatest threat to the recreation area's aquatic resources, including greater impacts to water quality and quantity, wetland and marine habitats, native plants and animals by exotic species invasions, and wildlife harvesting.

To meet these challenges, each alternative would incorporate goals for planning and constructing facilities and operating programs that protect the ecological integrity and natural functioning of the park's terrestrial and marine aquatic resources. The park would continue to work with numerous federal, state, and local partners and the general public in watershed management planning and implementation to achieve the goal of protecting the park's aquatic resources from a variety of threats. Interpretive programs and literature would be provided to the public to increase understanding of water resources issues and problems. Monitoring and evaluating park waters to ensure health standards are constantly met would protect public health.

ponds near the reclamation plant. Some of the reclaimed, tertiary-treated water is discharged directly into Malibu Creek.

Tens of millions of people use the southern California beaches in the summer. The health and safety of these people are of primary concern. Upland contamination could affect beach-goers, creating an

unwelcome and unhealthy experience. Beach use becomes unsafe when minimal fresh water flows from the creeks to the ocean. Individuals who swim in the stagnant water in the lagoons at these times may be exposed to unhealthy concentrations of harmful substances.





Mugu Lagoon (NPS photo).

During the remainder of the year, upland areas are used more than the beaches. Visitation in the fall, winter and spring months is not as great as in the summer, but there is never a time when visitors are absent. The cumulative effects of visitation on aquatic resources must always be regularly monitored and mitigated.

Biological Resources and Wetlands

VEGETATION

Munz (1974) identified the following plant communities in the Santa Monica Mountains: coastal strand, coastal salt marsh, freshwater marsh, coastal sage scrub, chaparral, valley grassland and southern oak woodland.

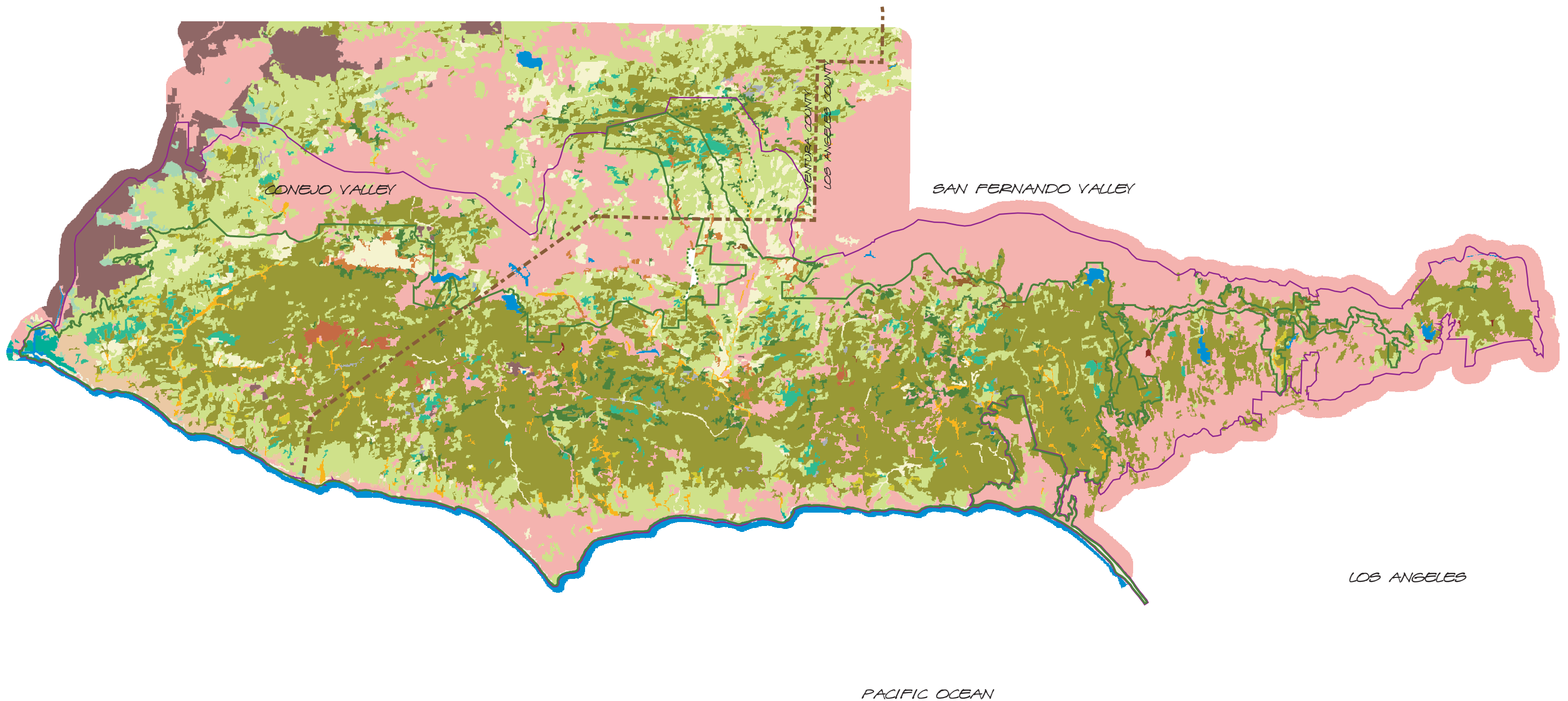
Raven et al. (1986) uses the following vegetation community classification system: chaparral, coastal sage scrub, southern

oak woodland, valley grassland, riparian woodland, intermittent stream bed, lake, pond and quiet stream aquatic, freshwater marsh, coastal strand, coastal salt marsh, marine meadow, and surfweed.

The following is a more comprehensive summary of the major vegetation types found in the Santa Monica Mountains. In this summary, 12 communities are identified, which are derived from 26 vegetation associations identified by the California Natural Diversity Database classification system (Holland 1986).

Figure 11 illustrates the vegetation types that occur within the SMMNRA.

In general, vegetation communities of the Santa Monica Mountains are determined by the following factors: presence of water, elevation, aspect, soil, proximity to the ocean, and presence or frequency of fire.



NORTH

0 2 4 MILES

- AGRICULTURAL
- CHAMISE CHAPARRAL
- COAST LIVE OAK
- COASTAL CACTUS SCRUB
- COASTAL DUNE / BLUFF SCRUB
- COASTAL SAGE SCRUB
- COASTAL SAGE SCRUB-CHAPARRAL TRANSITION
- COASTAL STRAND
- DEVELOPMENT

- NON-NATIVE CONIFER / HARDWOOD
- NON-NATIVE GRASSLAND / HERBACEOUS
- NORTHERN MIXED CHAPARRAL
- RED SHANK CHAPARRAL
- RIPARIAN (SYCAMORE-OAK)
- ROCK OUTCROPS (BARREN)
- SALT MARSH
- VALLEY OAK
- WALNUT
- WATER



- LOS ANGELES / VENTURA COUNTY LINE
- SMNRA BOUNDARY
- SMNZ BOUNDARY

Figure 11:

VEGETATION

SANTA MONICA MOUNTAINS
NATIONAL RECREATION AREA
CALIFORNIA

INCLUDES UNITS OF NPS, CALIFORNIA STATE PARKS,
AND THE SANTA MONICA MOUNTAINS CONSERVANCY

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► Coastal Salt Marsh

Coastal salt marsh occurs nearest the ocean where perennial water flows from inland sources. Plants in this community are adapted to a high concentration of salt, very little wave action and oxygen-depleted soils. Succulence, usually associated with desert vegetation, is a common characteristic of plants growing in the coastal salt marsh. Some representative plants include pickleweed (*Salicornia*), dodder (*Cuscuta salina*), salt grass (*Distichlis spicata* sp.), and sea blite (*Sueda californica*). Examples of this type of plant community in the Santa Monica Mountains can be found around Malibu and Mugu Lagoons.

Of an estimated 26,000 acres of original coastal wetlands, occurring from Santa Barbara to the border with Mexico, approximately 8,500 acres remain. This represents a 67 percent reduction in this community type (NRMP 1982). The dramatic reduction in area makes this community especially important in the Santa Monica Mountains.



Coastal Salt Marsh (NPS photo).



Coastal Strand.

► Coastal Strand

Forty-one miles of California coastline, with exposures ranging from sandy beaches to rocky tidepools and lagoons, lie within the recreation area boundaries. Much of this community has been changed by development or converted to encompass recreational uses in coastal areas.

Characterized by strong winds, salt spray, fog, intense solar radiation, drought conditions and an infertile, unstable substrate (sand), this community extends from the high tide zone inward in a narrow band. Many of the plants in this community have adapted to shifting sands, with stems that lay prostrate over the sand, or leaves that curve downward and lay flat along the sand. Some leaves have sticky or hairy surfaces, which gather sand grains to act as ballast, holding them down during high winds. Many of these plants reproduce and spread by rhizomes. Salt spray, slow nutrient cycling and desiccating winds contribute to a desert-like environment. This plant community occurs along the southwest edge of the mountains, east of Point Mugu. Characteristic plants include sand verbena (*Abronia maritima*), silver beachweed (*Ambrosia chamissonis*), saltbush

(*Atriplex* sp.), beach morning glory (*Calystegia soldanella*) and the alien iceplant or hottentot fig (*Mesembryanthemum* sp.). Characteristic wildlife includes willets, sanderlings, western gulls and a variety of other species adapted to coastal strand environments.

► Coastal Sage Scrub

In the Santa Monica Mountains, coastal sage scrub occurs on drier sites and lower elevations than chaparral, especially on coastal south-facing slopes. Coastal sage scrub is also common in inland areas of the Simi Hills within the SMMNRA. Often occurring in recently eroded areas, this community plays an important role in soil stabilization. Many of its characteristic plants produce soil-holding, fibrous shallow roots. Soils underlying coastal sage scrub tend to be low in nutrients and subject to rapid erosion, comprised of a high percentage of sand and gravel.

The coastal sage scrub community has been referred to as “chaparral” since soft-leaved, grayish green, aromatic shrubs characterize the widely spaced vegetation. Characteristic plants include purple sage (*Salvia leucophylla*), California sagebrush (*Artemisia californica*), coast goldenbush (*Haplopappus venetus*) and coastal buckwheat (*Eriogonum cinereum*) and the larger laurel sumac (*Malosma laurina*) or lemonadeberry (*Rhus integrifolia*) shrubs.

Many species in this community, particularly the sages, are summer or drought deciduous, dropping larger leaves during mid-summer to conserve moisture.

Good examples of coastal sage scrub can be found at the mouth of Zuma Canyon and in coastal Point Mugu State Park. Characteristic wildlife includes Anna’s hummingbirds, rufous-sided towhees, California quail, greater roadrunners, Bewick’s wrens, coyotes and coast horned lizards.



Coastal Sage Scrub (NPS photo).

► Chaparral

Chaparral, the dominant vegetation community in the Santa Monica Mountains, is characterized by deep-rooted, drought and fire-adapted evergreen shrubs growing on coarse-textured soils with limited water-holding capacity. Unlike other plant communities, in chaparral, a nearly impenetrable vegetative wall of stiff stems and leathery leaves is formed by the four- to 12-foot-high plants. Underneath, the ground is devoid of herbaceous vegetation, except for an occasional clump of foothill needlegrass (*Nassella lepida*) or cluster of wildflowers.

The drought-adapted leaves of chaparral plant species are often small, leathery, thick, fuzzy and/or waxy. Depending on the species, chaparral plants may reproduce after fire either by seeds or stump-sprouting, or both. Various subcommunities, dominated by one or more species are described below.

Mixed chaparral is found throughout the Santa Monica Mountains on moist, north facing slopes. It contains a number of woody vines and large shrubs, including scrub oak (*Quercus berberidifolia*), greenbark or spiny ceanothus (*Ceanothus spinosus*), mountain

mahogany (*Cercocarpus betuloides*), toyon (*Heteromeles arbutifolia*), hollyleaf redberry (*Rhamnus ilicifolia*), sugarbush (*Rhus ovata*) and manzanita (*Arctostaphylos* spp.).

Red shank and mexican chaparral is an unusual plant community that occurs in four distinct populations in California: southern San Luis Obispo County, Santa Monica Mountains, San Jacinto/Santa Rosa Mountains and northern Baja California. This community, dominated by red shank (*Adenostoma sparsifolium*), is well developed at Circle X Ranch, but may be found intermittently throughout the Santa Monica Mountains. Red shank chaparral is usually found associated with granitic soils at high elevations where greater precipitation and colder winters enable its growth. In addition to red shank, it includes the following species: chamise, sugarbush and a variety of ceanothus species.

Ceanothus chaparral primarily occurs on stable slopes and on ridges. On some slopes, bigpod ceanothus (*Ceanothus megacarpus*) makes up over 50 percent of the vegetative cover. In other areas, buckbrush ceanothus (*Ceanothus cuneatus*), hoary-leaved ceanothus (*Ceanothus crassifolius*), or greenbark ceanothus may dominate. In addition to ceanothus, the following species may also be present: chamise, black sage (*Salvia mellifera*), and holly-leaf coffeeberry (*Rhamnus ilicifolia*), among other shrubs.

This community is overwhelmingly dominated (80 percent) by chamise, but may also contain black sage and coast goldenbush, sugarbush and a variety of other species.

Characteristic wildlife includes wrentits, bushtits, spotted towhees and California thrashers, bobcats, brush mice, dusky-footed woodrats, western fence lizards and rattlesnakes.



Chaparral (NPS photo).





Coastal Live Oak (NPS photo).

► Coast Live Oak Woodland

This community is found on north slopes and in shaded ravines or canyon bottoms and is characterized by coast live oak (*Quercus agrifolia*), hollyleaf cherry (*Prunus illicifolia*), California bay laurel (*Umbellularia californica*), coffeeberry (*Rhamnus californica*) and poison oak (*Toxicodendron diversilobum*). Coast live oak is more tolerant of salt-laden fog than other oaks and thus can be found relatively near the ocean. This community is often found on the well-drained soils of coastal plains and protected bluffs. Groves are formed across valleys and along streams and intermittent watercourses. Live oaks, as their name suggests, are evergreen. Preferring permanent water, the deep taproots of live oaks can reach to the water table.

Well-developed oak woodlands can be found at Trippet Ranch in Topanga State Park and at Rocky Oaks. Characteristic wildlife includes acorn woodpeckers, plain titmice and northern flickers, cooper's hawks,

western screech owls, mule deer, gray foxes, ground squirrels, jackrabbits and a variety of bats.

► Riparian Woodland

Riparian woodlands occur along canyon and valley bottoms with perennial or intermittent streams in nutrient rich soils, or within the drainage of steep slopes. Of all the plant communities in the Santa Monica Mountains, the riparian community contains



Riparian Woodland (NPS photo).

the greatest species diversity. Also unlike other communities, riparian woodlands have multi-layered vegetation, with both an under and overstory. Dominant species may include arroyo willow (*Salix lasiolepis*), California black walnut (*Juglans californica*), sycamore (*Platanus racemosa*) Mexican elderberry (*Sambucus mexicana*), California bay laurel (*Umbellularia californica*) and mule fat (*Baccharis salicifolia*). Riparian woodland is one of the most endangered plant communities in California. It is estimated that less than 10 percent of the original 200,000 acres of riparian communities remain in California (NPS 1982a). Four kinds of riparian communities are easily identifiable in the Santa Monica Mountains.

Walnut riparian woodlands occur along streams and in pockets along west facing drainage ways, and on northeast facing slopes (sometimes not in streamside areas). Black walnuts often invade willow riparian areas. The non-riparian walnut woodlands are best developed in the eastern part of the Santa Monica Mountains on shale and north facing slopes.

Mule fat dominated riparian areas occur along intermittent streams, where flooding is frequent, or as an understory to sycamore woodlands.

Willow riparian areas precede a more diverse riparian community, such as sycamore woodlands. Willows are classic pioneers in riparian forests.

Sycamore riparian woodlands occur throughout the mountains. They are easily recognizable by the dominance of this species and a variety and abundance of other plant species, such as poison oak. A rich community, sycamore riparian woodlands are the most diverse riparian community in the Santa Monica Mountains.

Within the SMMNRA, there are approximately 35 separate watersheds, with more than 40 drainages that empty into the

Pacific Ocean. Riparian woodlands may have soils that retain moisture longer, with larger amounts of organic matter and clay than found in other Santa Monica Mountains plant communities.

Big Sycamore Canyon in Point Mugu State Park, Malibu Creek, or Medea Creek in Cheeseboro Canyon contain good examples of riparian woodland. Characteristic wildlife include American goldfinches, black phoebes, warbling vireos, song sparrows, belted kingfishers, raccoons, California and Pacific tree frogs and, in some perennial streams, steelhead trout.



Valley Oak Savanna (NPS photo).

► Valley Oak Savanna

Valley oaks (*Quercus lobata*) reach the southernmost extension of their range in Malibu Creek State Park. Endemic to California, valley oaks were once widely distributed from the Sacramento and Pit River canyons, 500 miles south to the Santa Monica Mountains. These trees, which reach truly majestic proportions, originally spread over the native grasslands in the wide valleys of central and coastal California. Valley oaks reach ages of 400-600 years and may have trunks six or seven feet in diameter. They present a graceful appearance on the landscape, widely spaced with branches that may drape to touch the ground.



Over the last 150 years, valley oaks have succumbed to widespread agricultural and residential development that has focused on their prime habitat – alluvial valleys. Although thousands of acres of valley oak savanna remain, they are vastly changed. The savanna or grassland understory was formerly comprised of dozens of species of native grasses and forbs, which blossomed in an array of wildflowers in the spring. Now the grassland understory is comprised mainly of alien European annual grasses, which have out-competed and crowded out the native species over the decades since they were introduced.

Where once a multi-layered composition of valley oaks of different ages existed, now only the large trees remain. Many years of non-seedling growth have resulted in low replenishment of young or medium aged trees to the valley oak savanna.

Aside from valley oaks, characteristic native grasses, which dominate valley oak savanna, include purple needlegrass (*Nassella pulchra*), and alien grasses such as wild oats (*Avena fatua*) and ripgut brome (*Bromus diandrus*) as well as black mustard (*Brassica nigra*). Wildflowers include mariposa lilies (*Calochortus catalinaea*) and coast goldfields (*Lasthenia chrysotoma*). Characteristic wildlife includes American kestrels, scrub jays, acorn woodpeckers, coyotes and mule deer.

► Valley Grassland

There are two types of grassland that occur in the Santa Monica Mountains: native perennial and alien annual grasslands. Perennial bunch grasses are considered to be the original native grassland of California, while annual grasses were those introduced by the European and Spanish settlers for their livestock. The golden rolling hills of California are largely a result of the introduction of these annual grasses, since bunch grasses often remain green even during summer drought.

Perennial bunch grasses differ from annual grasses in that they put much of their energy during their first several years into establishing a well-developed root system that would sustain them through regular summer drought. Their roots penetrate deeply into the soil, providing nutrients and water and holding soil particles firmly in place. This decreases the erosive effects of wind and water. Unlike annual grasses, they don't produce seeds the first year, but as the years continue, produce an abundance of seed at maturity. The tufted parent increases in size every year.

More than 100 years of livestock have been grazing on California's former native perennial grassland, which has been converted to alien annual grassland. Native perennial grasslands historically covered nearly 20 percent of California, but today cover less than 0.1 percent. Today, approximately 18 million acres, or 17 percent of California, is considered valley grassland that contains both alien annual and native perennial species (Keeley 1990). The California Natural Diversity Database (CNDDB) identified purple needlegrass grassland as a community needing priority monitoring and restoration. The CNDDB considers grasslands with 10 percent or greater cover of purple needlegrass to be significant, adding that these should be protected as remnants of California prairie.

Characteristic wildlife includes turkey vultures, horned larks, western meadowlarks, long-tailed weasels and badgers.

► Freshwater Ponds and Lakes

In the Santa Monica Mountains, freshwater ponds and lakes are primarily artificial, but still form an important community type and provide valuable wildlife habitat. Among these are stock ponds at Rancho Sierra Vista, Rocky Oaks, Point Mugu, Palo Comado



Freshwater Pond (NPS photo).

Canyon, Nicholas Flats, the Westlake and Las Virgenes Reservoirs, and Lakes Lindero and Sherwood, as well as many other small ponds. Characteristic plants include various cattails (*Typha* spp.), bulrushes (*Scirpus* spp.), rushes (*Juncus* spp.), and duckweed (*Lemna* spp.). Characteristic birds include red-winged blackbirds, ruddy ducks and American coots.

► **Rock Outcrops**

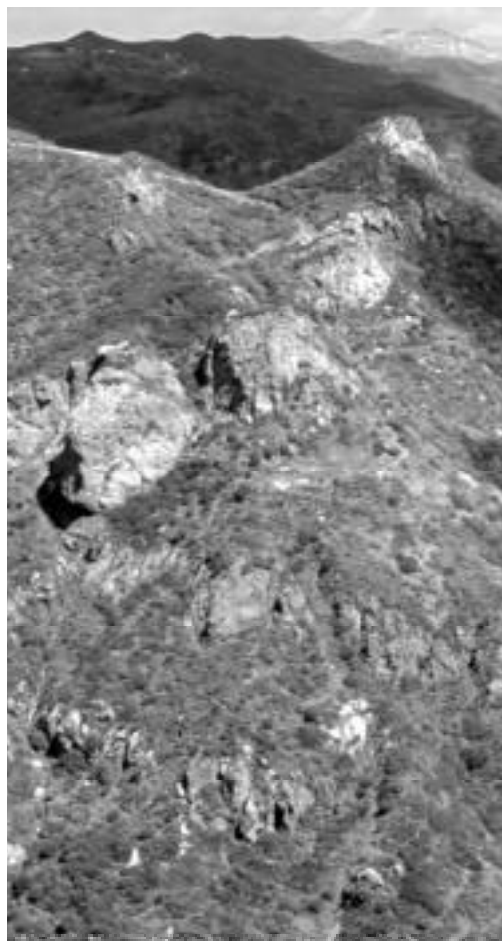
Innumerable cliffs and rock outcrops of sedimentary, metamorphic and volcanic origin dot the Santa Monica Mountains. These rocky outcrops, made colorful by a profusion of lichens, club moss and dudleyas, provide nest sites and perches for raptors and habitat for mammals such as the ringtail (*Bassariscus astutus*) and long-tailed weasel (*Mustela freneta*). Characteristic birds include prairie falcons, turkey vultures, canyon wrens and common ravens.

► **Suburban Development**

People would continue to live and work in the mountains as recreation area neighbors. As a result, the recreation area would always include areas of suburban and human-influenced habitat. Characteristic birds include house finches, mourning doves, great horned owls and northern mockingbirds.

Fire has been an especially important factor shaping ecosystems of the Santa Monica Mountains. Fire is a major factor controlling nutrient cycles and energy pathways. Through much of the past, fire has been a natural process, contributing to the diversity, productivity and regeneration of ecosystems. The recreation area's vegetation and wildlife evolved over millions of years in partial response to naturally occurring fires. These fires, in combination with burnings by Native Americans during the last 12,000 years, shaped the landscape.

However, current fire regimes have been heavily affected by the proximity of the mountains to millions of people. All of the major fires since 1925 have been human



Rock Outcrops (NPS photo).



caused – either by arson or accidental events (e.g. downed power poles, vehicle emissions, cigarettes tossed out car windows, etc.). In southern California brushlands, numbers of fires have increased and fire rotation intervals have decreased over the 20th century as population densities have increased (Keeley, et al. 1999). Even accounting for burnings by Native Americans, it was likely that pre-historic fire frequency was lower and return intervals significantly longer. Fire has long been used as a tool to intentionally convert shrub lands to clear farmland and produce the grasslands more suitable for grazing livestock. Now, however, high fire frequencies are producing the same, now undesired, effect of converting native chaparral communities to non-native grasslands, as well as altering the native vegetation structure, and facilitating further invasion of non-native species – particularly exotic grasses.

WILDLIFE

The Santa Monica Mountains support an abundant wildlife community, which is reflective of the diversity of the vegetation within the SMMNRA boundary. More than 450 vertebrate species occur in the SMMNRA, including 50 mammals, 384 birds, and 36 reptiles and amphibians. The relatively intact wildlife populations of the mountains are especially impressive considering their proximity to one of the

largest urban areas in the United States. The continued maintenance of wildlife populations in the Santa Monica Mountains is dependent on the ability of public and private land managers to ensure adequate habitat for the most sensitive species. Urban development within the mountains continues to remove and fragment habitat available to wildlife, as it climbs up canyons, expands in pockets of low lying land, tops ridges, and encroaches on habitat adjacent to protected public land.

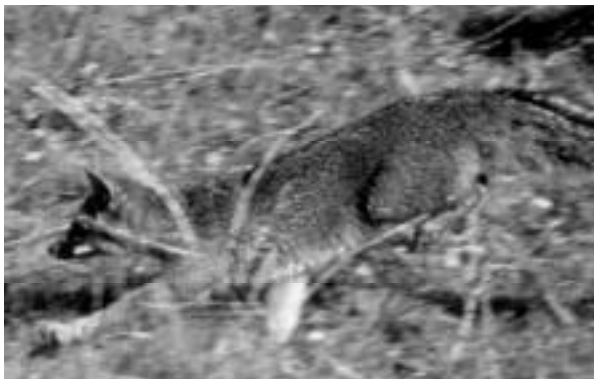
► Mammals

Mule deer (*Odocoileus hemionus californicus*) are the largest herbivores in the Santa Monica Mountains. Mule deer are found throughout the mountains in a variety of habitats. Their distribution is limited by the fluctuating availability of watercover and vegetation.

Lagomorphs, or rabbits, are represented by three species, including the brush rabbit (*Sylvilagus bachmani*), Audubon's cottontail (*Sylvilagus audubonii*) and the black-tailed jackrabbit (*Lepus californicus*). Collectively these species inhabit brushy areas and especially meadows and grasslands.

Rodents comprise the final segment of the herbivorous mammals of the Santa Monica Mountains. Common species include the California ground squirrel (*Spermophilus beechyi beechyi*), fox squirrel (*Sciurus niger*), deer mouse (*Peromyscus maniculatus*), dusky-footed woodrat (*Neotoma fuscipes*), Pacific kangaroo rat (*Dipodomys agilis*), and the pocket mouse (*Perognathus californicus*).

The Santa Monica Mountains still contain mountain lions (*Felis concolor*), although their continued ability to survive in the face of large-scale habitat fragmentation and destruction is uncertain. It is likely that their persistence in the mountains would depend upon their capability of dispersing to and from other habitat areas beyond the Santa Monica Mountains.



Gray Fox (NPS photo).



California Sea Lion (NPS photo).

Other predators include bobcats (*Lynx rufus*), coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), badgers (*Taxidea taxus*), ringtails (*Bassariscus astutus*), raccoons (*Procyon lotor*), spotted and striped skunks (*Mephitis mephitis* and *Spilogale putorius*), and long-tailed weasels (*Mustela frenata*). In general, the survival of carnivores would depend on their ability to survive amid increased developments and the extent to which these species can disperse between open space areas and parklands.

Marine mammals that occur within the boundary of the SMMNRA are limited to harbor seals (*Phoca vitulina*), which breed in Mugu Lagoon. Other marine mammals that can be readily observed from within the boundary include migrating California gray whales (*Eschrichtius robustus*) and bottlenosed dolphins (*Tursiops truncatus*).

► Birds

Located along the Pacific flyway, more than 384 species of birds (including vagrants) may be found in the mountains. In Malibu Lagoon alone, more than 262 species have been recorded. Of the total number of birds

that may be found within the recreation area, approximately one-third, or 117, breed here. Thirteen of these breeders are raptors, which is an unusually high concentration. Sheer high cliffs of sedimentary and volcanic origin provide excellent nesting areas. Historically, California condors, bald eagles and peregrine falcons nested here. Currently, golden eagles (*Aquila chrysaetos*), red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo lineatus*), Cooper's hawks (*Accipiter cooperii*), and sharp-shinned hawks (*Accipiter striatus*) nest here. Prairie falcons (*Falco mexicanus*), American kestrels (*Falco sparverius*), black-shouldered kites (*Elanus leuairus*), barn owls (*Tyto alba*), great horned owls (*Bubo virginianus*), western screech owls (*Otus kennicottii*), burrowing owls (*Athene cunicularia*), short-eared owls (*Asio flammeus*) and turkey vultures (*Cathartes aura*) also nest within the recreation area.

► Reptiles

Twenty-five species of reptiles inhabit the Santa Monica Mountains, including two turtle (one introduced), seven lizard and 16 snake species. The western pond turtle



(*Clemmys marmorata pallida*) is considered extremely rare. Common lizards include western fence lizards (*Sceloporus occidentalis longipes*), side-blotched lizards (*Uta stansburiana elegans*), and alligator lizards (*Elgaria multicarinata webbi*). The coastal horned lizard (*Phrynosoma coronatum frontale*), a California species of special concern, is also regularly observed in the recreation area. Common snakes include southern Pacific rattlesnakes (*Crotalus viridis helleri*), gopher snakes (*Pituophis melanoiecus annectens*), and California striped racers (*Masticophis lateralis lateralis*). Very little information is available about the distribution and status of many reptile species in the SMMNRA. For example, two-striped garter snakes (*Thamnophis couchi hammondi*), coastal western whiptail lizards (*Cnemidophorus tigris multiscutatus*), San Diego mountain kingsnakes (*Lampropeltus zonata pulchra*), and silvery legless lizards (*Anniella pulchra pulchra*) are believed to be in decline or very rare.

■ Amphibians

The Santa Monica Mountains contain habitat for 11 species of amphibians, including five salamanders and six frogs or toads (two introduced). Two other species often listed for the Santa Monica Mountains, the arroyo toad (*Bufo microscaphus californicus*) and the western spadefoot toad (*Scaphiopus hammondi*), occur nearby but no historical records exist for their occurrence and no populations have been found in the SMMNRA. Until recently the California red-legged frog (*Rana aurora draytoni*) was considered extirpated. The California toad (*Bufo boreas halophilus*) and Pacific treefrog (*Hyla regilla*) are relatively common. Other amphibian species are suffering declines, including California newts (*Taricha torosa*) and California treefrogs (*Hyla cadaverina*), as a result of predation by exotic species, habitat loss, and likely other factors (e.g.

U.V. radiation). In general, the decline of amphibian populations in the Santa Monica Mountains has become a priority concern.

■ Fish

A variety of native and introduced fish occur in the waters of the Santa Monica Mountains. Of significance are at least two spawning populations of the endangered steelhead trout (*Onchorynchus mykiss*) and one spawning population of Pacific lamprey (*Lampetra tridentata*), as well as several locations where California grunion (*Leuesthes tenuis*) spawn. Arroyo chub occur in the slow moving waters of Malibu Creek and a variety of introduced fish, such as largemouth bass, bluegill and goldfish, occur in freshwater streams up and downstream from recreational lakes and golf course such as Malibu Lake and the Malibu Country Club.

The lagoons provide habitat to a number of migratory water birds, and supports one of the southernmost steelhead trout runs in the U.S. Besides the reintroduced tidewater goby, and resident steelhead, native fish in Malibu Lagoon include killifish (*Fundulus parvipinnis*), arrow goby (*Clevelandia ios*), staghorn sculpin (*Leptocottus armatus*), long-jawed mudsucker (*Gillichthys mirabilis*), opaleye (*Girella nigricans*), topsmelt (*Atherinops affinis*), diamond turbot (*Hypsopsetta guttulata*), northern anchovy (*Engraulis mordax*), California halibut (*Paralichthys californicus*), Pacific lamprey (*Lampetra tridentata*), queenfish (*Seriophus politus*), bay pipefish (*Syngnathus leptohynchus*), starry flounder (*Platichthys stellatus*), kelpfish (*Gibbonsia monterivensis*), and serranid (*Paralabrax* sp.) (Manion 1993; Manion and Dillingham 1989).

■ Insects

Information on insects and their relationships to other organisms in the Santa Monica Mountains is very limited. The diversity and abundance of these organisms is certainly quite large. Aside from references by Emmel

and Emmel (1973) and Hogue (1974, 1993), very little comprehensive information on insects exists for the mountains. Partial surveys and species lists exist from various sources (e.g. Resource Conservation District of the Santa Monica Mountains, docents from Charmlee County Park, etc.). However, few, if any, systematic surveys have been completed.

HABITAT CONNECTIVITY

Perhaps the greatest threat to natural resource preservation in the Santa Monica Mountains National Recreation Area is the loss of habitat connectivity from increased development and urban encroachment. Natural areas that *do* remain in the recreation area are becoming subdivided into smaller patches and housing tracts. Commercial developments and roadways are further compromising

connections between these patches. This fragmentation and connectivity loss could isolate plant and animal populations, reducing their numbers, increasing their susceptibility to environmental change, and exposing them to potential genetic deterioration. For some species, particularly larger animals with low population densities and wide ranges, these consequences could be severe and result in their extinction from formerly occupied habitats. For example, in the Santa Monica Mountains, habitat loss, fragmentation, and loss of connectivity threaten the survival of bobcats, gray foxes, and badgers. The situation is especially serious for mountain lions, where persistence in the recreation area could depend on their ability to disperse to and from the Santa Monica Mountains from surrounding open space areas and mountain ranges.



Coyote (NPS photo).



To address this concern, the National Park Service is actively involved in identifying critical habitats to ensure that sufficient open space remains in the recreation area and that these areas are connected with habitat linkages or wildlife movement corridors (refer to [Figure 12](#)). Areas of particular concern include protecting east-west connections within the Santa Monica Mountains to link already established core habitats, such as Point Mugu State Park/Circle X Ranch, Zuma and Trancas Canyons, Malibu Creek State Park, and Topanga State Park. In addition, north-south linkages between the Santa Monica Mountains and Simi Hills are also vital.

Highway 101 and developments along this eight- to 10-lane freeway have eliminated nearly all options for north-south connections, but two critically important linkage areas remain. The first, in the central Santa Monica Mountains, connects Malibu Creek State Park south of the freeway to Cheeseboro and Palo Comado Canyons to the north. The best option for a viable connection in this area is through Liberty Canyon. Additional routes to further safeguard this link may exist near Las Virgenes Creek, although extensive development has constrained this option.

The second critical north-south linkage area occurs at the western end of the Santa Monica Mountains, along the Conejo grade. Connectivity across Highway 101 in this location has the advantage of linking two relatively undeveloped areas, including undeveloped land north of the freeway in Hill Canyon and Wildwood Park and south of the freeway on Conejo Mountain. However, proposed and ongoing development and limited opportunities for animals to traverse Highway 101 threaten this area, too.

Beyond the Santa Monica Mountains and Simi Hills, connectivity to the Santa Susana Mountains would be crucial for larger animals like mountain lions. In this case,

linkage opportunities are also limited. The most likely connection between the Simi Hills and Santa Susana Mountains occurs at Santa Susana Pass, east of Simi Valley and along Highway 118. Another potential connection route is located further west, in the vicinity of the Tierra Rejada Valley and just east of Moorpark. Ongoing development and existing roadways (including highways 23 and 118) threaten the western linkage.

Ultimately, connectivity from the Santa Monica Mountains and Simi Hills to the Santa Susana Mountains, Los Padres National Forest, and Angeles National Forest would be necessary to ensure the survival of large mammals in the recreation area. The keys now are to identify where these connections occur, determine if and how they are used by wildlife, and to protect the linkages while opportunities remain. In addition, restoration activities or other improvements to facilitate wildlife movement across freeways or through developments may be necessary. Currently, the National Park Service and other research cooperators are conducting research to identify critical linkage areas and to determine the characteristics of sites that promote their use by wildlife.

Although habitat linkages and wildlife movement corridors would be critical to ensure wildlife survival in the Santa Monica Mountains, the primary need is to protect sufficient habitat for wildlife now. Linkages and corridors serve no wildlife protection purposes unless they connect large, contiguous blocks of protected open space. Without the core habitats and sufficient areas for foraging, breeding and maintaining healthy populations would not occur. In evaluating connectivity needs and potential linkage areas, it is critical to identify which core areas the linkage would serve and which species would utilize and benefit from the connectivity. While some habitat linkages and wildlife movement corridors may be useful for some species they may be less valuable or important for others.

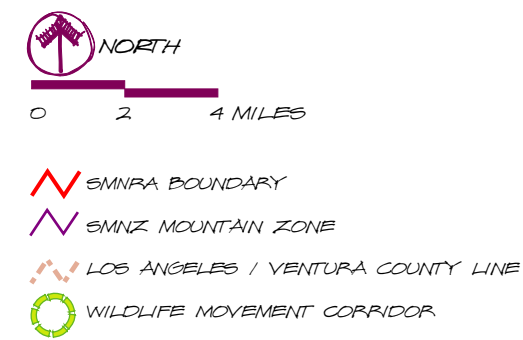
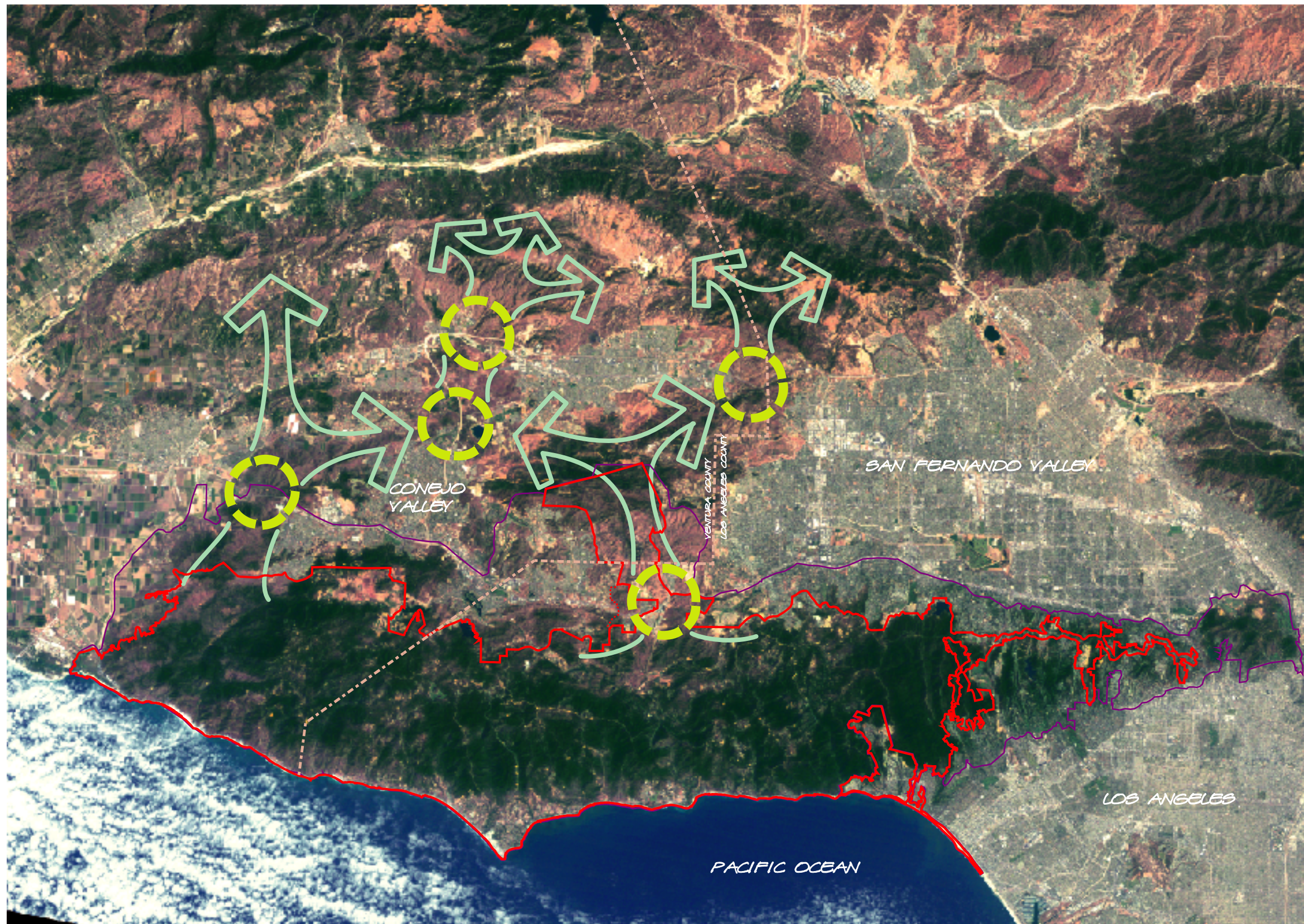


Figure 12:
**WILDLIFE
CORRIDORS**

**SANTA MONICA MOUNTAINS
NATIONAL RECREATION AREA
CALIFORNIA**

INCLUDES UNITS OF NPS, CALIFORNIA STATE PARKS,
AND THE SANTA MONICA MOUNTAINS CONSERVANCY

United States Department of the Interior • National Park Service
SAMO • September 2000 • 638 • 20074

THREATENED AND ENDANGERED SPECIES

Twenty-three plant and animal species with potential to occur within the Santa Monica Mountains National Recreation Area are federally listed as threatened or endangered. Three additional state-listed species occur within the Santa Monica Mountains. Another 46 animal and 12 plant species are federal or state species of concern and one additional plant species has been proposed for listing as federally endangered (a listing package has been prepared). In addition, a number of other plant and animal species are considered rare or are species of concern to the recreation area. A comprehensive list of these species is provided in the following tables (Tables 12, 13 and 14).

WETLANDS

From Mugu Lagoon to the Santa Monica Pier, the SMMNRA includes 41 miles of Pacific coastline. Overall, the shoreline of the SMMNRA receives some of the most intense recreational use in the United States and is an extremely popular summer destination for residents of Ventura and Los Angeles Counties, as well as visitors from all parts of the United States and other countries. Despite sections of intense use and development, the coastal portion of the SMMNRA has retained important natural resources. These include two lagoons that provide habitat for a variety of rare or threatened species, spawning grounds for grunion (*Leuresthes tenuis*), and numerous locations where the progression in coastal plant communities can be clearly delineated. Although not included within the SMMNRA boundary, the near shore habitats are also diverse in structure and species composition, and include rock reefs, tide pools, kelp beds, submarine canyons and subtidal sand flats. In 1979, the State Water Resources Control Board designated the coastal area from Laguna Point (Ventura County) to Latigo

Point (Los Angeles County) as an "Area of Special Biological Significance" for its outstanding and diverse biotic communities and exemplary water quality. Due to the Mediterranean climate, wetlands and riparian habitats play a significant role in maintaining the natural ecological processes of the Santa Monica Mountains. To date, the U.S. Fish and Wildlife Service has provided a rough estimate (National Wetlands Inventory) of the extent of wetlands and riparian habitats in the mountains. Based on 1974, 1:80,000 aerial photography, the USF&WS delineated wetlands on the 14 USGS 7.5 minutes maps that encompass the park. Freshwater wetlands typically occur in canyon bottoms along perennial and intermittent streams and in association with man-made ponds. Field checks have not been made against these maps. Furthermore, the information depicted on these maps is of such a gross scale it can only be used for large-scale analysis of land use practices. With the rapid, lot by lot, development of the mountains, more definitive information is needed. The park is developing GIS maps that would allow public agencies to quickly determine if significant resources exist on individual parcels of private land. A detailed wetland and riparian vegetation inventory is needed to support this effort in order to address specific threats to park resources. SMMNRA has recognized this need as a priority and has procured funding to begin monitoring in Fiscal Year 2001.

The SMMNRA contains two existing lagoons with perennial streams and three with intermittent streams. The largest of the lagoons, Mugu Lagoon, is owned by the U.S. Navy and is the largest relatively undisturbed salt marsh in southern California. The other lagoon, Malibu Lagoon, is the recipient of 105 square miles of drainage within the SMMNRA. Degraded estuarine areas periodically occur in Topanga Canyon, Trancas Creek and Zuma Creek, depending on the seasonal water flows.

In 1996, the California Water Quality Assessment attributed non-point-source pollution to more than 80 percent of impairment problems for coastal lagoons, harbors and wetlands. The creek flowing into Mugu Lagoon is Calleguas Creek (the lagoon is located at the extreme south end of Calleguas Creek). Therefore, the total area of the watershed is 343 square miles, about 30 miles long and 14 miles wide. It is located in southern Ventura County with a small portion in Los Angeles County. Only a small part of this watershed is within the SMMNRA. Calleguas Creek is the major drainage in the watershed and its tributaries drain an area of 343 square miles from 37 subwatersheds. The lagoon is a vital stop on the Pacific Flyway, a nursery ground for many marine fish and mammals, and is also a vital habitat for several threatened and endangered species. Some of these include the California least tern, light-footed clapper rail, Belding's savanna sparrow, and the tidewater goby. Although Mugu Lagoon has not been affected as much as other lagoons and estuaries in southern California, it has not been left unaltered. The effects of agriculture, urbanization and past base construction by the U.S. Navy have resulted in significant changes and loss of habitat. Security and operating zones are the principal reasons why the lagoon has thus far been preserved as well as it is.


The estuarine wetlands of Malibu Lagoon and salt marsh are estimated to cover 58 acres. There have been many alterations to the lagoon, from stream channelization to bringing in fill to construct baseball fields. Disturbance by humans, off-road vehicles, horses, and domestic pets are ongoing problems. The large watershed to the lagoon contributes a number of pollutants. In the highly urbanized parts of the watershed, non-point-source pollution comes from runoff of roads and other impervious surfaces such as

roofs, parking lots, driveways and sidewalks. The domestic use of water requires the importation of approximately 17,000 acre-feet of water per year. Some of this wastewater is treated at the Tapia Water Reclamation Facility, and either discharged to Malibu Creek or sold for landscape irrigation. Between October and June, five to 10 million gallons per day are discharged to the creek. This increased amount of water in a stream poses major problems to the flora and fauna of the lagoon. When the lagoon mouth is closed, incoming water tends to pond within the system, creating a more freshwater environment. The low stream flows and the easterly littoral sand flows in the ocean close off the lagoon in the summer months. If there is any pollution of the lagoon water when it gets released, it could affect the health of swimmers and surfers.

The lagoon provides habitat to a number of migratory water birds, supports a dense riparian forest, supports habitat for the endangered tidewater goby and supports the southernmost reliable run of the remaining steelhead trout runs in the United States. It also provides recreational access and educational opportunities for many school children.

Where Topanga Creek discharges into the Pacific Ocean, a berm has been built across the mouth of the creek by littoral drift and wave action, and a lagoon has formed due to the backwater effect of the berm. The main channel of Topanga Creek is 6.6 miles long with an average channel slope of approximately 70 feet per mile. Topanga Creek supports southern steelhead trout upstream of the lagoon. Topanga Creek is a tightly constrained creek due to steep canyon walls that broaden into an alluvial plain on leaving Topanga Canyon. Exotic flora as well as abandoned cars, houses, and shacks are found in the flood plain.


Table 12

<div></div> <div>RARE, THREATENED, OR ENDANGERED ANIMALS Potentially Occurring in the SMMNRA</div>					
SPECIES	COMMON NAME	FEDERAL*	STATE*	PARK*	
Mammals					
<i>Antrozous pallidus</i>	Pallid Bat	SC	CSC	–	
<i>Euderma maculatum</i>	Spotted Bat	SC	CSC	–	
<i>Eumops perotis californicus</i>	Greater Western Mastiff Bat	SC	CSC	–	
<i>Macrotus californicus</i>	California Leaf-nosed Bat	SC	CSC	–	
<i>Myotis lucifugus occultus</i>	Occult Little Brown Bat	SC	CSC	–	
<i>Plecotus townsendii townsendii</i>	Pacific Western Big-eared Bat	SC	CSC	–	
<i>Sorex ornatus salicornicus</i>	Salt Marsh Ornate Shrew	SC	CSC	–	
<i>Reithrodontomys megalotus limicola</i>	Southern Marsh Harvest Mouse	(C3)	–	–	
<i>Lasirus cinerus</i>	Hoary Bat	–	–	PSC	
<i>Taxidea taxus</i>	American Badger	–	–	PSC	
<i>Felis concolor</i>	Mountain Lion	–	–	PSC	
<i>Bassariscus astutus</i>	Ringtail	–	–	PSC	
<i>Mustela frenata</i>	Longtail Weasel	–	–	PSC	
<i>Neotoma lepida intermedia</i>	Coastal Desert Woodrat	–	–	PSC	
Birds					
<i>Pelicanus occidentalis californicus</i>	Brown Pelican	E	E	–	
<i>Falco peregrinus anatum</i>	Peregrine Falcon	–	E	–	
<i>Rallus longirostris levipes</i>	Light-footed Clapper Rail	E	E	–	
<i>Sterna antillarum browni</i>	California Least Tern	E	E	–	
<i>Empidonax traillii extrimus</i>	Southwestern Willow Flycatcher	E	E	–	
<i>Vireo belli pusillus</i>	Least’s Bell Vireo	E	E	–	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	T	E	–	
<i>Charadrius alexandrius nivosus</i>	Western Snowy Plover	T	CSC	–	
<i>Poliopitila Californica</i>	California Gnatcatcher	T	CSC	–	
<i>Passerculus sandwichensis beldingi</i>	Belding’s Savannah Sparrow	SC	E	–	
<i>Ixobrychus exilis hersperis</i>	Western Least Bittern	SC	CSC	–	
<i>Sterna elegans</i>	Elegant Tern	SC	CSC	–	
<i>Eremophila alpestris actia</i>	California Horned Lark	SC	CSC	–	
<i>Campylorhynchus brunneicapillus cousei</i>	San Diego (Coastal) Cactus Wren	SC	CSC	–	
<i>Lanius ludovicianus</i>	Loggerhead Shrike	SC	CSC	–	
<i>Agelaius tricolor</i>	Tri-colored Blackbird	SC	CSC	–	
<i>Aimophial ruficeps canescens</i>	Southern California Rufous-crowned Sparrow	SC	CSC	–	
<i>Oreotyx pictus</i>	Mountain Quail	SC	–	–	
<i>Numenius americanus</i>	Long-billed Curlew	–	CSC	–	
<i>Riparia riparia</i>	Bank Swallow	–	T	–	
*STATUS CODES:					
Federal:		State:		Park:	
E = Federally Endangered		E = State Endangered		PSC = Park Species of Concern	
T = Federally Threatened		T = tate Threatened		LE = Believed Locally Extinct/Extirpated	
PE = Proposed Endangered		CE = State Candidate Endangered			
PT = Proposed Threatened		CT = State Candidate Threatened			
SC = Federal Species of Concern (Former Category 1 and 2 Species)		CSC = California Species of Concern			
(C3) = Former Federal C3 Species					

Santa Monica Mountains National Recreation Area
Draft GMP/EIS

(cont'd) **Table 12**

<div></div> <div>RARE, THREATENED, OR ENDANGERED ANIMALS Potentially Occurring in the SMMNRA</div>					
SPECIES	COMMON NAME	FEDERAL*	STATE*	PARK*	
Birds (cont'd)					
<i>Aquila chrysaetos</i>	Golden Eagle	–	CSC	–	
<i>Accipiter cooperii</i>	Cooper's Hawk	–	CSC	–	
<i>Circus cyaneus</i>	Northern Harrier	–	CSC	–	
<i>Pandion haliaetus</i>	Osprey	–	CSC	–	
<i>Falco columabarius</i>	Merlin	–	CSC	–	
<i>Falco mexicanus</i>	Prairie Falcon	–	CSC	–	
<i>Asio otus</i>	Long-eared owl	–	CSC	–	
<i>Athene cuninularia</i>	Burrowing owl	–	CSC	–	
<i>Dendrocia petechia</i>	Yellow Warbler	–	CSC	–	
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	–	–	PSC	
<i>Accipiter striatus</i>	Sharp-shinned Hawk	–	–	PSC	
<i>Buteo lineatus</i>	Red-shouldered Hawk	–	–	PSC	
<i>Buteo regalis</i>	Ferruginous Hawk	–	–	PSC	
<i>Elanus Caeruleus</i>	White-Tailed Kite	–	–	PSC	
<i>Porzana carolina</i>	Sora Rail	–	–	PSC	
<i>Charadrius montanus</i>	Mountain Plover	–	–	PSC	
<i>Amphispiza belli</i>	Bell's Sage Sparrow	–	–	PSC	
<i>Icteria virens</i>	Yellow-breasted Chat	–	–	PSC	
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	–	–	PSC	
<i>Gavia immer</i>	Common Loon	–	–	PSC	
<i>Plegadis chihi</i>	White-faced Ibis	–	–	PSC	
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	–	–	PSC	
<i>Cathartes aura</i>	Turkey Vulture	–	–	PSC	
<i>Buteo jamaicensis</i>	Red-tailed Hawk	–	–	PSC	
<i>Falco sparverius</i>	American Kestrel	–	–	PSC	
<i>Tyto alba</i>	Barn Owl	–	–	PSC	
<i>Bubo virginianus</i>	Great-horned Owl	–	–	PSC	
<i>Otus kennicottii</i>	Western Screech Owl	–	–	PSC	
<i>Asio flammeus</i>	Short-eared Owl	–	–	PSC	
Reptiles					
<i>Clemmy's mamorata pallida</i>	Southwestern Pond Turtle	SC	CSC	–	
<i>Phrynosoma coronatum</i>	Coast Horned Lizard	SC	CSC	–	
<i>Lampropeltus zonata pulchra</i>	San Diego Mountain Kingsnake	SC	CSC	–	
<i>Salvadora hexalepis vigultea</i>	Coast Patch-nosed Snake	SC	CSC	–	
<i>Cnemidophorus tigris multiscutatus</i>	Coastal Western Whiptail	SC	–	–	
*STATUS CODES:					
Federal:		State:		Park:	
E = Federally Endangered		E = State Endangered		PSC = Park Species of Concern	
T = Federally Threatened		T = State Threatened		LE = Believed Locally Extinct/Extirpated	
PE = Proposed Endangered		CE = State Candidate Endangered			
PT = Proposed Threatened		CT = State Candidate Threatened			
SC = Federal Species of Concern (Former Category 1 and 2 Species)		CSC = California Species of Concern			
(C3) = Former Federal C3 Species					

<div></div> <div>RARE, THREATENED, OR ENDANGERED ANIMALS Potentially Occurring in the SMMNRA</div>					
SPECIES	COMMON NAME	FEDERAL*	STATE*	PARK*	
Reptiles (cont'd)					
<i>Diadophis punctatus modestus</i>	San Bernardino Ringneck Snake	SC	–	–	
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	SC	–	–	
<i>Anniella pulchra pulchra</i>	Silvery Legless Lizard	–	CSC	–	
<i>Hypsiglena torquata</i>	Night Snake	–	–	PSC	
<i>Trimorphodon biscutatus vandenburghi</i>	California Lyre Snake	–	–	PSC	
<i>Leptotyphlops humilis</i>	Western Blind Snake	–	–	PSC	
<i>Eumeces skiltonianus</i>	Western Skink	–	–	PSC	
Amphibians					
<i>Rana aurora draytoni</i>	California Red-legged Frog	T	CSC	–	
<i>Taricha torosa torosa</i>	Coast Range Newt	–	CSC	–	
<i>Ensatina eschscholtzii</i>	Ensatina	–	–	PSC	
<i>Aneides lugubris</i>	Arboreal Salamander	–	–	PSC	
<i>Hyla cadaverina</i>	California Tree Frog	–	–	PSC	
Fishes					
<i>Eucyclogobius newberryi</i>	Tidewater Goby	E	CT	–	
<i>Oncorhynchus mykiss</i>	Southern California Steelhead Trout	E	–	–	
<i>Gila orcutti</i>	Arroyo Chub	–	–	PSC	
<i>Lampetra tridentata</i>	Pacific Lamprey	–	–	PSC	
Invertebrates					
<i>Euphydryas editha quino</i>	Wright's Checkerspot Butterfly	E	–	LE	
<i>Streptocephalus woottoni</i>	Riverside Fairy Shrimp	E	–	–	
<i>Lycaena arota nubila</i>	Clouded Tailed Copper Butterfly	SC	–	–	
<i>Panoquina errans</i>	Salt Marsh Skipper Butterfly	SC	–	–	
<i>Satyrium auretorum fumosum</i>	Santa Monica Mtns Hairstreak Butterfly	SC	–	–	
<i>Brennania belkini</i>	Belkins Dune Tabanid Fly	SC	–	–	
<i>Neduba longipennis</i>	Santa Monica Shieldback Katydid	SC	–	–	
<i>Neduba diminutiva dactyla</i>	Santa Monica Shieldback Katydid	SC	–	–	
<i>Neduba diminutiva malibu</i>	Santa Monica Shieldback Katydid	SC	–	–	
<i>Neduba morsei costalis</i>	Santa Monica Shieldback Katydid	SC	–	–	
<i>Neduba morsei curtatus</i>	Santa Monica Shieldback Katydid	SC	–	–	
<i>Neduba morsei tectinota</i>	Santa Monica Shieldback Katydid	SC	–	–	
<i>Proceratium californicum</i>	Valley Oak Ant	SC	–	–	
<i>Speyeria callippe comstocki</i>	Comstock's Fritillary Butterfly	–	–	PSC	
<i>Lycaena gorgon</i>	Gorgon Copper Butterfly	–	–	PSC	
*STATUS CODES:					
<u>Federal:</u>		<u>State:</u>		<u>Park:</u>	
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SC = Federal Species of Concern		CSC = California Species of Concern			
(Former Category 1 and 2 Species)					
(C3) = Former Federal C3 Species					



(cont'd) **Table 12**

<div style="display: flex; align-items: center;"> <div> RARE, THREATENED, OR ENDANGERED ANIMALS Potentially Occurring in the SMMNRA </div> </div>				
SPECIES	COMMON NAME	FEDERAL*	STATE*	PARK*
Invertebrates (cont'd)				
<i>Coleus globosus</i>	Globose Dune Beetle	–	–	PSC
<i>Melanoplus obespulus</i>	(Grasshopper)	–	–	PSC
<i>Ceuthophilus hesperus eino</i>	(Camel Cricket)	–	–	PSC
<i>Arenivaga</i> spp.	(Sand Cockroaches)	–	–	PSC
<i>Trimerotropis occidentalooides</i>	Santa Monica Mountains Grasshopper	–	–	PSC
<i>Timena monikensis</i>	(Walkingstick)	–	–	PSC
*STATUS CODES:				
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E = Federally Endangered		E = State Endangered		PSC = Park Species of Concern
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Trancas Lagoon drains a watershed of 6,233 acres and is almost entirely within the SMMNRA. The lagoon is a nine-acre coastal lagoon at the mouth of Trancas Creek. Historically, Trancas Creek was an ephemeral creek fed by waters draining off the southern flanks of the Santa Monica Mountains and flowing through the 6-mile reach of Trancas Canyon. More recently, run-off from an upstream golf course has resulted in higher flows and the stream is now essentially perennial. Sandbars caused by wave action and littoral transport of sand close the mouth of the creek. Water ponds behind the berm and has to be breached mechanically. The creek has been impacted with concrete channelization and a concrete and boulder debris basin.


Zuma Creek drains a nine-square-mile (5760-acre) watershed. Lower Zuma Creek and lagoon are heavily impacted by a variety of alien plants, as well as heavy sediment loads. This perennial stream

creates a 2.3-acre wetland at the mouth of Zuma Creek. An interagency project for the restoration of this area is currently being implemented.

Paleontology

Paleontological resources, or fossils, are the remains of ancient plants and animals, as well as trace fossils such as burrows or tracks, that can provide scientifically significant information on the history of life on earth. Assessments of the scientific significance of these remains are based on whether they can provide data on the taxonomy and phylogeny of ancient organisms, the paleoecology and nature of paleo-environments in the geologic past, or the stratigraphy and age of geologic units. The potential educational value of paleontological resources is another criterion upon which significance assessments have been based. (Reynolds, 1995). Fossils that are out of stratigraphic context, that is, no longer occurring in their host rock unit,

Table 13



RARE, THREATENED, OR ENDANGERED PLANTS
Potentially Occurring in the SMMNRA

Species	Common Name	Federal*	State*	Park*	Regional*
<i>Cordylanthus maritimus</i> ssp. <i>Maritimus</i>	salt marsh bird's-beak	E	E	1B	–
<i>Pentachaeta lyonii</i> ¹	Lyon's pentacheata	E	E	1B	–
<i>Astragalus brauntonii</i> ²	Braunton's milk-vetch	E	–	1B	–
<i>Astragalus tener</i> var. <i>titi</i>	Coastal dunes milk-vetch	PE	E	1B	LE
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura marsh milk-vetch	SC	CE	1A ⁴	–
<i>Dudleya cymosa</i> ssp. <i>Marcescens</i> ¹	Marcесcent dudleya	T	R	1B	–
<i>Dudleya cymosa</i> ssp. <i>Ovatifolia</i> ²	Santa Monica Mtns. Dudleya	T	–	1B	–
<i>Dudleya cymosa</i> ssp. <i>Ovatifolia</i> form <i>agourensis</i> ¹	(Not recognized as a separate taxon)				
<i>Dudleya abramsii</i> ssp. <i>Parva</i> ¹	Conejo dudleya	T	–	1B	–
<i>Dudleya verityi</i> ¹	Verity's dudleya	T	–	1B	–
<i>Dithyrea maritima</i>	beach spectaclepod	SC	T	1B	LE
<i>Eriogonum crocatum</i> ¹	Conejo buckwheat	SC	R	1B	–
<i>Hemizonia minthornii</i> ¹	Santa Susana tarplant	SC	R	1B	–
<i>Calochortus plummerae</i>	Plummer's mariposa lily	SC	–	1B	–
<i>Delphinium parryi</i> ssp. <i>Blochmaniae</i>	dune larkspur	SC	–	1B	–
<i>Dudleya blochmaniae</i> ssp. <i>Blochmaniae</i>	Blochman's dudleya	SC	–	1B	–
<i>Dudleya multicaulis</i>	many-stemmed dudleya	SC	–	1B	–
<i>Lasthenia glabrata</i> var. <i>coulteri</i>	Coulter's goldfields	SC	–	1B	–
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	SC	–	1A ⁴	–
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's Spineflower	SC	–	3	–
<i>Nolina cismontana</i>	California beargrass	SC	–	–	–
<i>Atriplex coulteri</i>	Coulter's saltbush	–	–	1B	–
<i>Muhlenbergia californica</i>	California muhly	–	–	1B	LE
<i>Nama stenocarpum</i>	mud nama	–	–	2	–
<i>Senecio aphanactis</i>	rayless ragwort	–	–	2	–
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	–	–	2	–
<i>Camissonia lewisii</i>	Lewis's evening-primrose	–	–	3	–
<i>Hordeum intercedens</i>	Vernal barley	–	–	3	–
<i>Abronia maritima</i>	red sand-verbena	–	–	4	–
<i>Baccharis plummerae</i> ssp. <i>Plummerae</i>	Plummer's baccharis	–	–	4	–
<i>Boykinia rotundifolia</i>	round-leaved boykinia	–	–	4	–
<i>Calandrinia breweri</i>	Brewer's calandrinia	–	–	4	–
<i>Calandrinia maritima</i>	Seaside calandrinia	–	–	4	–

*STATUS CODES:

Federal:

E = Endangered
T = Threatened
PE = Proposed Endangered
SC = Species of Concern

State:

E = Endangered
T = Threatened
R = Rare
CE = Candidate Endangered

Park:

LE = Believed Locally Extirpated

CNPS Status Codes:

1A = Presumed extinct in CA
1B = Rare of endangered in California or elsewhere

2 = Rare of endangered in California, more common elsewhere
3 = Plants for which we need more information – Review List
4 = Plants of limited distribution – Watch List

¹ Endemic to the Santa Monica Mountains and Simi Hills area


² Major occurrence in SMM-SH area, there are a few occurrences outside area

³ Only mainland occurrence

⁴ Formerly presumed extinct. A population was discovered in 1998/98



(cont'd) **Table 13**



RARE, THREATENED, OR ENDANGERED PLANTS

Potentially Occurring in the SMMNRA

Species	Common Name	Federal*	State*	Park*	Regional*
<i>Calochortus catalinae</i>	Catalina mariposa lily	–	–	4	–
<i>Cercocarpus betuloides</i> var. <i>blancheae</i> ³	island mountain-mahogany	–	–	4	–
<i>Chamaebatia australis</i>	Southern mountain misery	–	–	4	–
<i>Dichondra occidentalis</i>	Western dichondra	–	–	4	–
<i>Erysimum insulare</i> ssp. <i>Suffrutescens</i>	Suffrutescent wallflower	–	–	4	–
<i>Galium cliftonsmithii</i>	Santa Barbara bedstraw	–	–	4	–
<i>Juglans californica</i> var. <i>californica</i>	Southern California black walnut	–	–	4	–
<i>Juncus acutus</i> ssp. <i>Leopoldii</i>	Southwestern spiny rush	–	–	4	–
<i>Lepechinia fragrans</i>	Fragrant pitcher sage	–	–	4	–
<i>Lilium humboldtii</i> ssp. <i>Ocellatum</i>	Humbolt lily	–	–	4	–
<i>Mucronea californica</i>	California spineflower	–	–	4	LE
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's milkwort	–	–	4	–
<i>Suaeda esteroa</i>	Estuary seablite	–	–	4	–
<i>Baccharis malibuensis</i> ¹	Malibu baccharis	–	–	–	–

***STATUS CODES:**

Federal:

E = Endangered

T = Threatened

PE = Proposed Endangered

SC = Species of Concern

State:

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T = Threatened

R = Rare

CE = Candidate Endangered

Park:

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¹ Endemic to the Santa Monica Mountains and Simi Hills area

² Major occurrence in SMM-SH area, there are a few occurrences outside area

³ Only mainland occurrence

⁴ Formerly presumed extinct. A population was discovered in 1998/98

are normally considered to be of low scientific value because they can no longer be confidently related to a particular geological formation or time period. However, isolated fossil specimens may retain their educational value.

Fossils need not be mineralized to be of potential scientific value. Deposits resulting from geologically recent but rapid sedimentation, such as basal landslide deposits and marsh deposits, can yield the unaltered bones of extinct Pleistocene megafauna and paleobotanical (plant)



Fossils found near Circle X Ranch (NPS photo by Phil Bedel).

remains. Similarly, fossils need not be older than 10,000 years (that is, of Pleistocene age or older) to be scientifically significant. Understanding the post-Pleistocene development of California's ecosystems relies on such younger fossils, and remains an important goal of scientific research (e.g. Adam, 1985).

Paleontological resources in the Santa Monica Mountains include isolated fossil specimens, fossil sites, and fossil bearing rock units. The paleontologic sensitivity of the SMMNRA varies across the landscape depending on local geology as well as geomorphic factors. The geology and depositional history of different rock units,

Table 14

PLANT SPECIES UNCOMMON IN THE SMMNRA But Common Elsewhere	
Species	Common Name
<i>Amorpha californica</i> var. <i>californica</i>	false indigo
<i>Brodiaea jolonensis</i>	wild brodiaea
<i>Camissonia boothii</i> ssp. <i>Decorticans</i>	shredding evening primrose
<i>Carex globosa</i>	sedge
<i>Carex spissa</i>	sedge
<i>Cheilanthes cooperae</i>	Cooper's lace fern
<i>Cheilanthes covillei</i>	Coville's lace fern
<i>Cheilanthes newberryi</i>	lace fern
<i>Collinsia parryi</i>	blue-eyed Mary
<i>Eriogonum angulosum</i>	buckwheat
<i>Eriogonum wrightii</i> var. <i>membranaceum</i>	Wright's buckwheat
<i>Juncus rugulosus</i>	wrinkled rush
<i>Juniperus californica</i>	California juniper
<i>Koeleria macrantha</i> [K. <i>cristata</i>]	Junegrass
<i>Lewisia rediviva</i>	bitter root
<i>Linanthus pygmaeus</i> (ssp.?)	pygmy linanthus
<i>Notholaena californica</i>	California cloak fern
<i>Opuntia basilaris</i> var. <i>basilaris</i>	beavertail cactus
<i>Orobanche uniflora</i>	naked broom-rape
<i>Quercus douglasii</i>	blue oak
<i>Salix goodingii</i>	Gooding's black willow
<i>Sarcostemma cynanchoides</i> ssp. <i>Hartwegii</i>	climbing milkweed
<i>Silene verecunda</i> ssp. <i>Platyota</i>	Dolores campion
<i>Stanleya pinnata</i>	prince's plume
<i>Woodwardia fimbriata</i>	giant chain fern



Table 15

PALEONTOLOGIC SENSITIVITY OF ROCK FORMATIONS IN THE SMMNRA	
ROCK TYPE/FORMATION	SENSITIVITY
Igneous Rocks*	None to Low
All Formations	
Metamorphic Rocks	Low to None
All Formations	
Sedimentary Rocks	Moderate to High
Chatsworth Formation	High
Trabuco Formation	Moderate
Tuna Canyon Formation	High
Martinez (Coal Canyon) Formation	High
Sespe Formation	Moderate
Vaqueros Formation	High
Llajas Formation	High
Topanga Formation	High
Aquagene Tuffs of the Conejo Volcanics (correlative with the Zuma Formation)	Moderate
Calabasas Formation	High
Modelo Formation	High
Trancas Formation	High
Monterey Formation	High
Pico Formation	High
Plio-Pleistocene Marine Sediments	Moderate
Unconsolidated Quaternary Sediments	Low to High
Quaternary Landslide Deposits (Basal)	High
Colluvium (Hill Slope Deposits)	Low
Alluvial Fan Deposits	Low
Valley Fill Deposits	Moderate to High

* Excluding water-lain (aquagene) tuffs, which for this treatment are considered to be sedimentary rocks

in turn, largely determines the potential for yielding scientifically or educationally significant fossil remains. The following is a summary of the paleontologic sensitivity of various rock formations in the SMMNRA.

The oldest paleontologic resources of the SMMNRA come from the Late Cretaceous

Chatsworth formation. Ammonites, extinct mollusks related to the chambered nautilus, have been collected from this formation, as well as marine foraminifera, clams, snails, bryozoans, and shark teeth. A substantial portion of the Cenozoic period (the last 65,000,000 years), the Santa Monica

Mountains area has been the site of marine deposition. There are a number of tertiary rock units in the mountains known to yield scientifically significant paleontologic resources (e.g., the Modelo, Pico, and Topanga formations). The sediments of the Modelo formation contain microfossils, clams, bony fish, whales, and algae. Bryozoans, gastropods, sharks, and cetaceans have been recovered from fossil sites in the Pico Formation. The Topanga formation, a shallow-water, marine sandstone unit, has yielded bony fish, bivalves, and gastropods.

In opposition to marine sediments, terrestrial sediments often do not contain fossils. This is because they are normally deposited under subaerial conditions, an environment of deposition not conducive to fossil preservation. Extensive deposits of colluvium mantling the hills of the SMMNRA fall into this low-sensitivity category, as well as the alluvium of the outwash fans issuing from the canyons. In contrast, fine-grained (clay to fine sand) valley fill deposits have yielded the remains of a diversity of extinct Pleistocene land mammals. Landslide deposits have not traditionally been associated with high paleontologic sensitivity. However, recent discoveries in southern California of quaternary-age fossil plants entombed at the base of landslides have provided important new information on the ecological history of the region (e.g. Axelrod, 1988), and have been used to determine that this important phenomenon is distinctly episodic (Reneau et al. 1986).

Cultural Resources

Brief Historical Overview of the Santa Monica Mountains Region

For thousands of years the Santa Monica Mountains have been at the center of

complex human interactions that shaped the environment and affected cultural processes in wider contexts. The richness and diversity of the region's cultural resources reflect the density and diversity of human population in the mountains over time.

THE CHUMASH AND GABRIELINO/TONGVA

Native Californians were unknown to Europeans until the coastal expeditions of the Spanish during the 16th century. Two of the most populous and sophisticated cultures the Spaniards encountered were the Chumash and Gabrielino/Tongva. The Chumash and Gabrielino/Tongva had been loosely organized into several major linguistic and geographic entities centered around the Santa Monica Mountains and nearby Pacific Ocean.

Chumash and Gabrielino/Tongva encampments, referred to by the Spanish as *rancherías*, were the centers of daily life. Large, permanent settlements were often comprised of as many as hundreds of people. A few encampments were located in the lowlands along inland rivers and streams and in sheltered areas along the coast. Smaller, outlying communities were connected to the larger settlements through social, kinship, economic, and religious ties. Seasonal villages, established primarily for harvesting of various fruits and seeds, also dotted the interior valleys. Over time, the Chumash and Gabrielino/Tongva developed monetary systems and exchange networks, acquired extensive astronomical knowledge, and produced exquisite basketry, bowls of steatite, stone, shell, and numerous pictographs. The Chumash and Gabrielino/Tongva had traded extensively among their own villages, as well as with neighbor groups.

The Chumash and Gabrielino/Tongva cultures thrived until the latter decades of the 18th century, when Spanish missions, which were sustained by Native American Indian labor, increasingly encroached upon their



CHUMASH AND GABRIELINO/ TONGVA NATIVE AMERICAN INDIAN HERITAGE

CHUMASH PEOPLE have inhabited the Santa Monica Mountains for nearly 8,000 years. The Gabrielino/Tongva people moved into the eastern Santa Monica Mountains about 2,000 years ago, bringing a different language, religion, and social structure to the region. The interface zone between these two sophisticated and developing cultures may have represented one political alliance of Chumash and Tongva in the Santa Monica Mountain region. It is important to preserve their heritage.

Most park actions have the potential to affect the integrity of scientifically important archeological and/or cultural sites and values. Visitor use, park design and development, maintenance, cultural and natural resource preservation – as well as visitor education – are all of concern to contemporary Native American Indians. Law, policy, and the park mission requires effective consultation with these groups to ensure that their traditional values are represented with sensitivity in all park planning and implementation.

To meet the challenges to preserve diverse cultural values, ongoing relationships would be continued on a government-to-government basis with the Santa Ynez Chumash and the many diverse groups of non-reservation Chumash and Gabrielino/Tongva. All park planning efforts would involve opportunities for Native American Indian participation. Any proposed development would meet the rigorous historic and archeological compliance procedures of the National Park Service. In addition, Native American Indians would be encouraged to monitor the preservation of any artifact collections discovered or created by park activities.

Continued funding to preserve the cultural contributions to the Santa Monica region would allow a more complete representation of traditional values from the diverse heritage groups. It would further enable appropriate park planning, maintenance, resource management, collections, and interpretation that preserves cultural objects and landscapes, understands traditional values, and would sensitively interpret and present Native American Indian cultures to visitors.

lands and lifeways. Divided and absorbed into the Spanish mission and ranch system, the Chumash and Gabrielino/Tongva lost control of their destiny. Mexican independence from Spain in 1821 also caused displacement and disruption through the mission system. In the aftermath of the Mexican-American War (1846–1848) and the annexation of California by the United States, a steady stream of American homesteaders and miners to the fertile and gold-laden lands of California completed the displacement of the Chumash and Gabrielino/Tongva from their ancestral lands.

THE SPANISH AND MEXICAN ERAS

Spain and later Mexico claimed portions of what was to become the American West for more than three centuries (ca. 1540–1848). During the latter decades of the 18th century, Spain began establishing a chain of Franciscan missions in California (Los Angeles Pueblo established 1781, and the mission of Santa Barbara, the first permanent Euro-American settlement in the vicinity of the Santa Monica Mountains, was established in 1782). Because Spain possessed neither the manpower nor the resources to engage in the widespread colonization of California, the Franciscans at each mission utilized a largely Native American Indian workforce. Many Native American Indians left their villages voluntarily, induced by food, shelter, clothing, complex social and religious influences, and, in some cases, because of the need to individually heal from newly introduced diseases. Spanish soldiers conscripted others. The Native American Indians were fed, sheltered, clothed and provided a rudimentary education, but they were also compelled to forsake their centuries-old indigenous ways. To survive, many had to surrender their personal

freedoms, and were frequently subjected to the lash, stocks, or irons. Others were subjected to European diseases that proved fatal to many mission Indians.

During the late 18th century, the Spanish began providing large tracts of land, known as *ranchos*, to veterans of the Spanish army and their families. Over 30 rancho concessions, often comprising tens of thousands of acres, were granted by the early 1805. Seventeen ranchos were established in the Santa Monica Mountains, and the mountains were a valued source of water and grazing land for cattle. A largely Native American Indian workforce, again either coaxed or conscripted, were among the earliest of the American West's cowpunchers. Long before ranching came into American life with the annexation of Texas in 1845, these *vaqueros*, or cowboys, rode horses outfitted with bit, bridle, and saddle, and used the lariat to rope and herd steers, and in the 1850s drove cattle north to the goldfields.

When Mexico, whose territory included the American West, won its independence from Spain in 1821, Mexican officials and land speculators pressed for the distribution of mission property. During the 1820s and 1830s, the Mexican government passed legislation to both diminish the influence of the Franciscans and distribute mission lands to settlers, and by 1834 all of the mission lands were secularized and opened to occupation. In addition, the Mexican government continued the Spanish practice, begun decades earlier, of granting private individuals large tracts of land.

Like Spain, however, Mexico could not sustain its hold upon the vast American West, surrendering the territory piece by piece to American settlers and soldiers over the course of the 19th century. By 1845 forces of the United States and Mexico were skirmishing



over Texas and a year later war broke out. In 1848 the United States and Mexico signed the Treaty of Guadalupe Hidalgo, and Mexico surrendered more than 500,000 square miles of territory to the United States, bypassing the Chumash and other Native American Indian tribes.

CALIFORNIA STATEHOOD TO THE PRESENT

News of gold discovered in California swept across the nation in 1848, and Americans rushed west to find it. In 1850 California was admitted to the Union and San Francisco, Sacramento, Stockton, Los Angeles, and San Diego began to take form as cities. American emigrants to California also discovered vast tracts of land either occupied by Native American Indians or held by *rancheros*, and the uncertainties and confusion over the ownership and boundaries of the land required years to sort out.

Native American Indians had no legal rights in early California. Even though they

were bound to the land by millennia of occupation, they were simply ousted from favorable lands, and in some instances interned in reservations, modeled after the missions. Sometimes California Native American Indians were simply massacred in their villages. More troublesome for the new Californians were the legacy of the Hispanic land claims associated with *ranchos* concessions, 17 of which had been granted in the Santa Monica Mountains.

In 1851 Congress passed the California Land Act, establishing a three-person Land Claims Commission and a complex legal mechanism to determine the legitimacy of Hispanic land claims. The indefinite boundaries of the unsurveyed landholdings, the lack of documentation in the possession of the claimants, and both the expenses of the legal fees and the time necessary to establish title in the courts, however, often delayed confirmation of landholdings, sometimes for decades. In addition, title to the former



Albertson Ranch – Westlake, 1962 (photo by Ed Lawrence).

rancho concessions was often clouded by the host of American newcomers who, taking advantage of a process burdened with confusion and delay, simply settled on the land and were later looked upon favorably by the non-Hispanic courts.

By the 1870s, the insatiable demand for land in California prompted the subdivision of many of the larger landholdings. Since the latter decades of the 19th century, the rapid subdivision and re-subdivision of land, often punctuated by claims and counter claims, has been an enduring characteristic of much of the California landscape, including pockets of the Santa Monica Mountains.

During the 20th century, a favorable climate, water supplied from Owens Valley and other sources, agriculture, oil, the movie industry and the burgeoning automobile industry facilitated the transformation of the Los Angeles basin into a megalopolis. Today, the greater Los Angeles metropolitan area is one of most racially and culturally diverse areas of the world and the Santa Monica Mountains are an island of open space amidst a sea of urbanization.

Archeological Resources

An estimated 30 percent of the land throughout the Santa Monica Mountains has been surveyed for archeological sites, and about 20 percent of National Park Service lands in the Santa Monica Mountains National Recreation Area have been surveyed for archeological sites. There are more than 1,500 known archeological sites in the Santa Monica Mountains, one of the highest densities of any mountain range in the world. Approximately 1,000 of the sites are within the recreation area boundaries, but only about 188 of the sites are on National Park Service lands. Many of the known sites show some appreciable disturbance due to the erosion that results from fire, flood, earthquakes, the effects of human land use practices, and vandalism.

NATIVE ARCHEOLOGICAL RESOURCES

Due to their dwindling numbers and the rapidly disappearing manifestations of their cultures during the 19th century, knowledge of the Chumash and the Gabrielino/Tongva is incomplete. Much of what is known of the Chumash and Gabrielino/Tongva is the result of early accounts, which primarily flowed from the quills of Spanish explorers and missionaries, and the material remains of their culture. The notes of Smithsonian ethnographer, John Peabody Harrington, recently released, have led to a renaissance of Chumash studies.

Known native archeological resources in the Santa Monica Mountains range from pictographs, village sites and special-use sites such as ovens and other lithic accumulations. The native archeological sites collectively represent approximately 9,000 years of human use. The sites variously exhibit evidence of flaked and stone-ground tools and cultural features such as projectile points, knives, scrapers, milling slabs, and hand stones. Chert and obsidian flakes, the refuse of stone tool making, have been found along with fire-cracked rocks, rock art, middens stained by ashes from campfires, and organic remains. Such sites document the gradual adaptation of the Chumash and Gabrielino/Tongva to the region's resources over thousands of years. The Santa Monica Mountains represent an interface between these two complex cultures and are of scientific significance because of the opportunities to test hypothesis about cultural development, integration and change.

One of the major archeological sites in southern California, Humaliwo (CA-LAN-264), is located in the Santa Monica Mountains National Recreation Area. The site, which is listed in the National Register of Historic Places, represents over 3,000 years of use, through the Spanish mission period of the early 19th century. Chumash habitants of the site were recorded in the archives of



the San Buenaventura mission. The site also contains a prehistoric cemetery dating back more than 1,000 years, as well as a historic cemetery dating from 1775–1825. The Tank Site (CA-Lan-1), located within Topanga State Park, is noteworthy for its rich yield of artifacts and cultural features. This site is used by archeologists as the defining location for early archaic cultures in southern California. The Little Sycamore Shellmound (Ca-Ven-1), located within Leo Carrillo State Beach on an ocean bluff is important as a defining site for early archaic cultures. Many other archeological sites in the Santa Monica Mountains, such as Talepop and Castle Peak, are potentially eligible for the national register.

There are 26 known Chumash pictograph sites in the Santa Monica Mountains, on both public and private lands, some of which have unfortunately been vandalized. One of the region's most noteworthy pictographs is within the recreation area boundaries near Zuma Canyon. The pictograph, which shows four figures mounted on horseback apparently depicting a historic event, was deemed eligible to be a national historic landmark. A second pictograph, in the upper Las Virgenes watershed outside of the recreation area's boundaries, has a documented solstice alignment, and is listed in the National Register of Historic Places.

ARCHEOLOGICAL RESOURCES

There were nearly 1,300 homestead claims in the Santa Monica Mountains, though not all of the claims were improved and patented. As more archeological surveys are undertaken, more information regarding historic archeological sites would become available, providing important interpretive links to the settlement and development of the mountains during the 19th and 20th centuries. One of the more notable sites is Talepop, (CA-Lan-229) a Chumash rancheria

occupied into the early 1800s near the intersection of Mulholland Drive and Las Virgenes Road in Malibu Creek State Park. Reportedly, Chumash people made tiles for the Spanish in the latter period of Native American Indian occupation at Talepop.

Historic Structures

There are hundreds of structures in the Santa Monica Mountains and adjacent foothills that are considered to be of at least local historical significance. Some structures are significant because of the events that occurred there. Rancho Sierra Vista, for example, is important for its contribution to the development of agriculture in Ventura County, particularly cattle and horse raising and the introduction of citrus and avocado orchards. Other structures are significant because of their occupant, such as the Will Rogers House or the Adamson House. Still others are significant for their architectural style, representing the diverse artistry of such architects as Wright, Neutra, and Schindler.

None of the missions established by the Spanish were within the boundaries of the SMMNRA. A few rancho era structures are within the boundaries, such as the Selpulveda adobe, as well as many structures built during the American homesteading and ranching era, such as the Chesebro Road (ca. 1880s).

Three structures within the SMMNRA's boundaries, but which are not on National Park Service lands, are listed in the National Register of Historic Places:

- **Adamson House and Grounds** Erected in 1929, the Adamson House, located within Malibu Lagoon State Beach, is notable for its blend of Moorish and Spanish-Mediterranean architecture and the use of lavish tile art on floors and walls. In addition, the site's designed landscape reflects the long interaction between the house's inhabitants and the land. The house is significant for its association with

a family who originally migrated to America in 1638 and whose descendants moved westward to California.

- **Looff's Hippodrome** ~~at Santa Monica Pier~~—Looff's Hippodrome is a rare example of an early shelter built to house a carousel in an amusement park, and is one of only two such structures that remain on the west coast. The carousel in the Hippodrome is not the Looff carousel originally installed in 1916, when the Hippodrome opened. The present carousel is a Philadelphia Toboggan Company carousel built in 1922 and installed in the Hippodrome in 1947.
- **Will Rogers House**—Located in Will Rogers State Historic Park, this house was the home of noted American humorist, writer, and motion picture actor – Will Rogers. Many trophies, collections, and personal effects of Will Rogers are exhibited in the house. The house, which was built ca. 1926, and adjacent land was presented to the State of California in 1944, for use as a state park.

In addition, there are about 15 structures on National Park Service lands – at the Paramount, Rancho Sierra Vista and Peter Strauss Ranches – that are currently recorded in the recreation area's List of Classified Structures (see list of Classified Structures, Appendix 7). Determinations of eligibility for listing in the national register have not been completed for the structures, but the structures at each ranch are considered to be potentially eligible for listing as historic structures or districts. An historic resource project study will begin in 2001 and be completed in 2003. One aspect of the study is to recommend structures, sites, districts and cultural landscapes on NPS land that appear to be eligible to the National Register. Another aspect of the project is to prepare draft National Register nomination forms for those projects. Since an historic resource study has not been done, the full number of



Will Rogers House and Polo Grounds.

historic structures, sites, districts and cultural landscapes in the NPS portion of the SMMNRA is not known.

Cultural landscapes according to the National Park Service's *Cultural Resource Management Guideline* (DO-28, 1998), a cultural landscape is

...a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions

Cultural landscapes are the result of the long interaction between man and the natural landscape. Shaped through time by historical land use and management practices, as well as natural disasters such as fires, floods, and earthquakes, cultural landscapes provide a living record of an area's past, a visual chronicle of its history. The evidence left behind of property ownership, technology, economic conditions and cultural values provides a good source of information about specific times and places. Long-term preservation of these landscapes is a challenge.





Fields of grain – Hidden Valley (photo by Ed Lawrence).

General threats to cultural landscapes include vandalism, neglect, structural deterioration, recreation area development and the impact of visitors. Failure to maintain the features that are subject to natural aging and decay in the area could result in structural deterioration. Wooden fences, for example, would deteriorate from long term exposure to elements. Historic vegetation would eventually disappear as part of its natural life cycle. Historic and prehistoric artifacts such as antique nails and equipment parts, building debris and stone tools – all which help to define the context for a cultural landscape – might be picked up by visitors. Recreation area operations could negatively impact historic trails and roads as they are converted to other uses or obliterated for other purposes.

In 1998 a draft cultural landscape inventory (Level 0) was completed for SMMNRA that identified potential cultural landscapes. A cultural landscape inventory documents up to three scales of information: potential cultural landscapes, potential component landscapes, and contributing features. A cultural landscape encompasses the largest contiguous area that is potentially eligible for the National Register of Historic Places. Some areas within a landscape may be further documented in more detail as component landscapes, which are physical components of a landscape, are defined. Component landscapes either contribute to the overall landscape's significance or are significant in their own right.

A draft cultural landscape report was prepared for Paramount Ranch in 1997. The draft *Paramount Movie Ranch, Cultural Landscape Report* identified Paramount Ranch as eligible for listing in the National Register of Historic Places, for the property's longtime association with Paramount Pictures Corporation and the American motion picture industry (ca. 1923–1948). Today the National Park Service administers approximately 680 of the Paramount movie ranch's original

2,400 acres, much of which was undeveloped, mountainous land. The 680 acres, however, encompass the core of the former movie ranch – the headquarters area, the sites of nearly 70 percent of the motion picture sets, and a preponderance of the landscape and vegetation character that provided the natural setting for more than 150 motion pictures. The internal road system built by Paramount is largely intact and eight of the original buildings and structures remain in the movie



FILM HISTORY AND PARAMOUNT RANCH

MANAGING AND PRESERVING a movie ranch as a living cultural landscape holds unique challenges. The infrastructure and buildings at Paramount Ranch are over 70 years old. The historic structures are in need of safety upgrades (wiring, water, etc.) and stabilization. A fire protection system needs to be added in all structures. The movie sets are decorative attachments, which need constant maintenance to keep them safe and usable. Although filming is a historic use at Paramount Ranch, movement of large vehicles and temporary placement of sets or set dressings may disrupt or damage the landscape. The continued traditional use must be balanced with NPS natural resource preservation goals to prevent cumulative damage to the landscape.

The primary goal of the park at the ranch is to preserve the elements of the cultural landscape and the uses associated with it. The continued use of the site by the film production community would be encouraged. Preservation would include stabilization of structures and upgrading the utilities to meet public safety standards. Secondary goals would include expansion of the interpretation of filming in the landscape through a variety of diverse programs both on- and off-site. A final goal for the site is to generate revenue to support operations, preservation, and interpretation of Paramount Ranch and filming history in the mountains. Most of the goals can be achieved through expansion and diversification of activities.





Paramount Ranch (NPS photo).

ranch's former headquarters area – a barn, an equipment storage shed, prop storage sheds, the mess hall/kitchen, the mill/carpentry shop, and the fire patrol station. These structures remain in various stages of alteration, recounting how Paramount developed the site to serve its needs.

The indigenous Chumash and Gabrielino/Tongva peoples have occupied land within the Santa Monica Mountains since prehistoric times. During the 19th century, farms and cattle ranches were established in the area. Throughout the 20th century, much of the land in the Santa Monica Mountains was built up for recreational and commercial uses. Each cultural landscape contains component features that include barns, corrals, fences, farmhouses, archeological sites, roads and trails, water management structures, non-native vegetation and landscaping. Ethnographic landscapes in the recreation area include natural features such as traditionally-used plants and sacred sites that were important in the lives of native inhabitants of the past, some of which are

still used today. These landscape features provide tangible evidence of the activities and habits of people who occupied, developed, used and shaped the land to serve their needs.

Mulholland Drive is a historic linear landscape unto itself. Additional transportation routes of importance are El Camino Real/Ventura Boulevard/Highway 101, PCH, and the Route 66 terminus at Santa Monica Pier.

According to the 1998 inventory, SMMNRA encompasses at least 12 cultural landscapes, in addition to Paramount Ranch, that are potentially eligible for listing in the national register. Component landscapes were also identified for three of the potential cultural landscapes (Table 16). For a complete listing of cultural landscapes please see Table 5 in the Appendix.

A Level 1 Cultural Landscape Inventory is scheduled for the SMMNRA in 2001 that would provide baseline information. The purpose of this inventory is to identify cultural landscapes, inventory them in a national database, record information about the resources relative to their location, description, characteristics, historical development and current management, and provide park staff with the information necessary to make informed decisions about their treatment.



Mulholland Highway (NPS photo).

Table 16

CULTURAL LANDSCAPES POTENTIALLY ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES	
Potential Cultural Landscapes – SMMNRA	Component Landscapes
Santa Monica Mountains Chumash-Gabrielino/Tongva Ethnographic District	Satwiwa/Boney Peak Saddlerock/Point Dume/Paradise Cove Saddle Peak Muwu/Calleguas Creek/Satwiwa Shrine Humaliwu/Talapop/Medea Creek Castle Peak/El Escorpion Burro Flats Seminole Hot Springs Upper Topanga Whales Eye
Simi Hills Historic Ranching District	Cheeseboro Canyon Morrison Ranch
Rancho Sierra Vista	Ranch Center and North Ranch Center
Reagan Ranch	Meadows and hills adjoining ranch buildings
Franklin Canyon	(none)
Peter Strauss Ranch	(none)
Solstice Canyon	(none)
Mason Homestead	(none)
Decker Homestead	(none)
De Anza Trail	(none)
Will Rogers Ranch	(none)
Stunt Ranch Homestead	(none)
Adamson Grounds	(none)
Topanga Canyon	(none)

In addition, the National Park Service plans to conduct the following research at the recreation area:

- Historic resource study.
- Park administrative history.
- Archeological surveys and assessments, as necessary.
- Historic structure reports, as necessary.
- Cultural landscape inventories and/or reports for potentially significant landscapes.
- Ethnographic overview and assessment of park, and ethno-history study.

Ethnography

Ethnographic resources are defined by the National Park Service as any "...site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it" (*Cultural Resource Management Guidelines 1996*). The Santa Monica Mountains were and are the home of two of the largest groups of Native American Indians in California: the Chumash and the Gabrielino/Tongva. Ethnographic sites of the



contemporary Chumash and Gabrielino/Tongva preserve and reflect their traditional values.

Throughout the 20th century, the economic opportunities of southern California have attracted large numbers of Native American Indians to the greater Los Angeles metropolitan area. Today Los Angeles and Ventura Counties have the largest concentration of Native American Indians in the nation, representative of virtually every tribal group from across the United States, though few are descendants of the Chumash or Gabrielino/Tongva, whose ancestral lands became much of the Los Angeles megalopolis. Despite centuries of difficulties, the Native American Indian community of southern California has persisted and, in fact, exhibits great variety and vigor today. Traditional ways seem to be resurgent as Native American Indians seek to retain their heritage even as they succeed in the cities. Similarly, the region's Native American Indians are working together to achieve common goals without losing their tribal identities. The region's Native American Indian community has grown, changed, and adapted, just as the Euro-American community has.



Chumash Dancer (photo by Dennis Garcia).

The Santa Monica Mountains National Recreation Area has held regular consultations with the region's contemporary Native American Indians since the recreation area's founding, and members of the region's Native American Indian community have shared their knowledge and skills with the SMMNRA. One result of the consultations is the identification of significant areas in the Santa Monica Mountains that require protection, such as the Boney Ridge, where Native American Indians have a long and deeply spiritual history of interaction. Many of these significant areas, however, either transcend the boundaries of the SMMNRA or are outside of the recreation area boundaries, which requires the National Park Service to work cooperatively with other agencies and landowners to protect these ethnographic values and aspects of indigenous land management of the parklands.

The Santa Monica Mountains National Recreation Area also continues to encourage traditions of music, crafts, stories, language, and basketry while providing authentic interpretation to the public by contemporary Native American Indian groups such as the Friends of Satwiwa and California Native Basketry Association.

Other ethnographic groups have contributed greatly to the region. Since the founding of the Pueblo of Los Angeles in 1781 by a mixed group of African-Americans, Native American Indians, and Europeans, the region has been ethnically diverse, and today the greater Los Angeles metropolitan area is one of most racially and culturally diverse areas of the world. The following groups join the Chumash and Gabrielino/Tongva people by their historical links the land:

- Yokut, Mohave, Yuman
- Aleutian Islander
- Spanish (Basque)
- Mexicans

- Californios
- African-Americans
- Chinese
- Japanese
- Germans
- French
- Norwegians
- Homesteaders

The ability of the SMMNRA to foster cultural diversity may be one of its most important resources. Ethnographic contributions provide important cultural and historical elements to the recreation area. The SMMNRA mission to recognize and completely understand its ethnographic resources continues with consultation with Native American Indians. Further comprehensive ethnographic studies are needed to provide the appropriate context for the varied ethnographic resources associated with the recreation area.

COLLECTIONS

The SMMNRA has more than 46,000 museum objects, specimens and archives stored in the recreation area's Museum Collection Storage Facility at Rocky Oaks. The collections are organized into seven broad categories – archeology, ethnology, history, archives, biology, paleontology, and geology – and provide evidence of activities that brought them into being and information about associated people, organizations, events, and places. The collections serve as reference material for staff and students, and documented material for public exhibit and programs. The physical condition of the SMMNRA's collections is generally good to excellent.

In April 1995, the National Park Service, California State Parks, and Santa Monica Mountains Conservancy established a Memorandum of Understanding for the cooperative management of the Santa

Monica Mountains National Recreation Area. The Memorandum of Understanding provides the basis for developing a joint approach to the management of collections. The California State Parks and Santa Monica Mountains Conservancy expressed interest in having the recreation area act as repository for various collections. These include archeological objects from state lands surrounding the recreation area and archival material that documents the activities of the SMMC within the mandated recreation area boundary. In addition, the University of California at Los Angeles is interested in turning over archeological artifacts in their collections that came from sites within the recreation area's boundaries. The Southwest Museum, located in downtown Los Angeles, has sizable collections from sites within the SMMNRA. It features collections from the sites in Leo Carrillo State Beach, Point Mugu State Park and others. The University of California at Berkeley has the collection from the Tank Site (CA-Lan-1).

Visitor Experience

CARRYING CAPACITY

To make sure that visitation does not impair resources and compromise visitor experience, the NPS and CSP are required by law to determine a carrying capacity for its parks. Carrying capacity is a measure used to determine what types and levels of visitor use can be accommodated while maintaining resource and social conditions consistent with the purposes of the park and its management objectives. Establishing carrying capacity does not mean the National Park Service must immediately restrict the number of people allowed in the recreation area. The objective is to monitor the number of visitors to the recreation area to protect it from overuse.



While the draft general management plan and environmental impact statement recognizes the desirability of limiting the impacts of public use through a variety of management and design strategies, specific limits on the numbers of visitors seems neither feasible or desirable. The open nature of the recreation area would make limits difficult to establish and enforce. The absence of clear evidence that resource damage is occurring because of too many visitors leaves the proposal without good justification. If, when, and where it became apparent that over-use was occurring to the detriment of the recreation area resources, steps would be taken to halt the damage by whatever means were necessary, up to and including placing specific limits on the number of visitors. Considering the extensive size and varied opportunities afforded by the national recreation area, it would seem likely that such limits, if used, would be very localized in their application.

Current carrying capacity of the SMMNRA, based on the experience of the recreation area management agencies and the current knowledge of resource conditions, is estimated to be somewhere in the excess of 33 million recreation visits annually.

Options for working with visitor use levels include:

- Encourage use of shuttles instead of private automobiles.
- Visit the recreation area during less busy times such as weekdays.
- Guide people to less sensitive areas.
- Limit encounters between visitors in more remote areas through dispersal or parking constraints.
- Control activity with improvements such as formal trails and boardwalks, carefully planned parking, ecologically sensitive visitor needs facilities, increased ranger/law

enforcement presence, and interpretive programs or signs that inform people of elements of concern for resource managers.

The carrying capacity for all NPS-owned sites would be determined on a site-by-site basis using the philosophy that the desired conditions of resource protection and quality visitor experience is maintained.

PUBLIC ACCESS

• Vehicles

The existing traffic conditions on the major routes tend to degrade the visitor experience to the recreation area. The current traffic volumes on most major roads within the SMMNRA are near or exceeding their capacity during daily peak travel periods. Traffic projections indicate that volumes on these roads would continue to increase as a result of anticipated growth in the greater Los Angeles area. As a result, traffic conditions on the major roads within the recreation area are anticipated to continue to deteriorate. The large traffic volumes create congestion, wildlife mortality, poor air quality, traffic-related noise, and the need for larger transportation facilities.

The majority of visitors use their private vehicles to access the area. This private vehicle use is creating transportation problems that are impacting the overall visitor experience and management of the SMMNRA. Traffic congestion, large traffic volumes on the roads within the SMMNRA, and the conflict between visitors and recreation area commuters reduces the quality and appeal of the visitor experience.

There are currently few transportation alternatives available to visitors. There is also a lack of public information about these alternative transportation options. Even if other mass transit options were available, most of the existing visitor facilities within the recreation area are not equipped to accommodate large transit vehicles.

Additionally, the appearance of the roadside environment in many areas detracts from the scenic quality of the recreation area and the visitor experience. In particular, street lighting, intrusive development and overhead power lines are considered unsightly.

In summary, most of the major routes through and near the SMMNRA are currently operating at or near capacity. Highway 101 and the eastern portion of PCH are heavily congested during the commuter hours of the typical weekday. Pacific Coast Highway is also heavily loaded on most days during the summer and most weekend days during the rest of the year. The east-west corridors through the area carry relatively high speed, bumper-to-bumper traffic during the morning and evening peak periods. The combination of high speed and high vehicle density resulting from commuter traffic imposes driving pressures on recreational visitors to the recreation area. Most drivers consider driving under these conditions as stressful and undesirable.

► **Pedestrians, Mountain Bikes, Equestrians**

There are several formal trailheads or parking areas throughout the SMMNRA (see Figure 4, the existing conditions and recreation opportunities map) which become quite crowded on weekends and in the summer months. Beach parking is particularly difficult during these periods, with informal off-road parking evident along PCH. Pedestrian safety is an issue as there are very few crosswalks and traffic is moving at high speeds. There are several paths that are marked as public access to the beach but have no formalized parking and are marked as “No Parking” zones.

Pedestrian access to the mountain hiking and biking trails is not so treacherous. While informal off-road parking has developed near hiking trails, in most places traffic is not heavy. Many “social trails” have been created



Ranger-guided tour at Rancho Sierra Vista/Satwiwa (NPS photo).

out of neighborhoods and back yards causing a confusing trail network throughout the mountains. This has created erosion and damage to vegetation.

EDUCATIONAL PROGRAMS

Interpretive tours and programs have increased in recent years through the combined efforts of the National Park Service, California State Parks, the Santa Monica Mountains Conservancy and others. Educational and interpretive themes, programs and facilities are developed specific to the character and resources of the individual recreation area units. Many interpretive services are offered in conjunction with volunteer and docent programs, as well as staff. These services range from guided tours and special events, to campfire and trail programs, to services encouraging participation of teachers and school groups. Through CSP, active seasonal programs are available such as Junior Rangers and Junior Lifeguards. Many of the recreation area units offer interpretive facilities, exhibits, films, and publications to enhance the visitor's experience, appreciation and understanding of the resources.





EDUCATION PROGRAMS
AND REGIONAL DIVERSITY

SANTA MONICA MOUNTAINS National Recreation Area represents one of the greatest opportunities for the National Park Service to meet the challenge of the “New America.” Located in Los Angeles and Ventura Counties, the park is in the backyard of one of the most ethnically diverse areas of the country.

The park already boasts a strong interpretive and educational program, uses partnership opportunities, and features facilities that can serve as settings for day use, overnight, and nature study outings. In 1998 over 900 programs were offered to more than 40,000 children. However, the effort would be barely adequate for the population today or in the future.

To meet the education challenge of the present as well as that of the future, Santa Monica Mountains National Recreation Area has developed an education strategy for the 21st century. Its purpose is to define and lay out the role of educational activities within the overall park program to ensure that education fulfills the purpose of the park, the goals of the agency, and the needs of the community. Program goals are to inspire all greater Los Angeles residents to claim inheritance of and stewardship for all national parks, to deliver an outdoor experience to every child in Los Angeles, and to build a National Park Service constituency for the 21st century.

► **National Park Service**

SMMNRA has a five-part education program designed to reach a multitude of students and cover a range of recreation area themes. Comprehensive presentations deliver information in a variety of ways and the programs complement the management objectives of the recreation area. The overall approach is balanced to offer both on-site and off-site opportunities to schools that may or may not have transportation available. Programs have been designed for the diverse population of students in the Los Angeles and Ventura County school districts.

The goals of the NPS education programs are

- to introduce and motivate students to learn about the major themes of the SMMNRA
- to introduce students to the NPS mission of preservation and protection of natural and cultural resources
- to meet the needs of students and educators in the Los Angeles and Ventura counties school system
- to develop public support for the management of the NPS and the SMMNRA

The five NPS programs include:

- **Parks as Laboratories (PAL) Studies of Land, Water and Air**– Students selected to participate in this program are from a primarily urban audience who have had little contact with the natural world or national parks. This program provides a direct link between their world and the natural world. The air, water and land exercises give students a hands-on experimental connection to the recreation area.
- **National Parks Labs-Studies of Wild Land Fire Ecology**– This three-year developmental program is funded by the National Parks Foundation. It focuses on fire ecology, integrated science and resource management. The program integrates scientific concepts across many disciplines in an outdoor lab setting.
- **Biological Diversity Program: The Chumash, A Changing People, A Changing Land**– This program, conducted on-site, is designed to teach third and fourth grade students the concept of biodiversity. By learning about the Chumash people, students also consider their own role in a biologically diverse land.
- **Cultural Heritage Program: One Land, Many People, Many Ways** – Children are introduced to the Native American Indian and Spanish heritage of the area by learning how all cultures contribute to history. They gain an appreciation for ethnic, racial and cultural diversity that is a large component of southern California today.
- **Geography and History Education Outreach Program: National Park Legacy**– Children are offered a chance to explore the national park system from their classrooms using recycled park brochures from different national parks. Students work independently and in groups to answer questions on unique geographic, historic and cultural features in parks.



Educational program at Rancho Sierra Vista/Satwiwa (NPS photo).

• California State Parks

In a cooperative effort with the State Parks Foundation, *Coming Home to California* is a statewide educational program designed to connect children and teachers to the historical and environmental treasures of their state. Teacher guides give information on the natural and cultural history of the region while noting features and programs of individual state park units. The intent of the program is to inspire optimism, concern, and a sense of responsibility for California's future. The following educational themes identify the program's focus:

- Incorporate California's natural and cultural heritages into the students' lives by introducing the resources into their sense of self and place.
- Encourage teachers and students to get out into the SMMNRA.
- Focus on the larger social and cultural patterns on the land in California so that a foundation is built to understand land ownership, public trusts, public lands and governmental stewardship.
- Stress the issue of biodiversity throughout the state.
- Touch on current issues of habitat restoration, ecosystems, and archeological site management.



► **Santa Monica Mountains Conservancy**

Education programs include:

- **The Recreational Transit Program (RTP)**– provides low-cost bus transportation for people who otherwise would not have access to a mountain park or beach. Target populations often do not have a reliable transportation source, and public transportation routes bypass most of these natural areas. The RTP provides the critical link for tens of thousands of city dwellers to attend programs offered by NPS, California State Parks, the Santa Monica Mountains Conservancy, the Sierra Club, and over a dozen non-profit program providers and docent groups throughout the SMMNRA. In 1998–99 more than 27,000 people visited the mountains on RTP buses. This program is funded by a grant from the city and county of Los Angeles transportation funds.
- **The Temescal Canyon Field Science Program**– is a three-day/two-night environmental education program funded by the Los Angeles Systemic Initiative through Los Angeles Unified School District. It has been in operation more than four years, and over 5,500 students have taken part in the program. The curriculum is designed to immerse students in the natural world through a combination of hands-on, experiential science activities and sensory experiences, and meets California Science Framework standards. This program is located in Temescal Gateway Park.
- **Our Junior Ranger Program**– provides a series of eight sessions teaching participants about the natural and cultural resources a park has been set aside to preserve. Youth have an opportunity to work closely with our ranger staff who serve as mentors and educators, passing on to the Junior Rangers the skills, knowledge, and motivation to become stewards of the parks once they have completed their training.
- **The Earth Adventure Program**– offers three options to groups and individuals:
- **Overnight Earth Adventure Camp** provides young people the ability to participate in the time-honored tradition of camp, with an emphasis on exploring the natural world of our local mountains. The curriculum is specifically designed for at-risk children with little or no experience with the natural world, and offers a unique combination of environmental science, experiential learning and leadership activities. This program is located in Temescal Gateway Park and is available for three-days/two-nights, five-days/four-nights, or weekend sessions.
 - ✓ Earth Adventure Day Camp – provides an environmental science-based program for parents looking for a meaningful alternative to childcare during winter and summer breaks.
 - ✓ Earth Adventure Field Trips – offers groups a three-hour interpretive program in the Santa Monica Mountains focusing on the natural and cultural resources in the various recreation areas.
 - ✓ The William O. Douglas Outdoor Classroom (WODOC) – offers school programs on weekdays and public programs on the weekends. All programs are free of charge and are staffed by WODOC's volunteer docents. WODOC programs operate under the management of the SMMC and the Mountains Recreation and Conservation Authority and are funded through a line item expenditure from the National Park Service.

- **The Ramirez Canyon Park Outreach Program** – targets seniors and the disabled from disadvantaged areas of the region. Within the unique setting of Ramirez Canyon Park, which includes Americans with Disabilities Act (ADA) accessible garden paths, a public access trail, a native plant demonstration garden, picnic areas and a proposed creekside overlook, participants are provided docent-led interpretive programs discussing historical, ecological and architectural information on the SMMNRA. The outreach program is supported by funding generated by the Streisand Center Garden Tour Program, which continues to draw an audience that normally would not venture into a typical “mountain” park, to learn about the canyon and its broader relationship to the SMMNRA.

Land Use and Socioeconomic Environment

Land Use

This section presents information regarding current and designated land uses for the SMMNRA and the surrounding jurisdictional areas.

EXISTING AND DESIGNATED LAND USES

The SMMNRA is located within both Los Angeles and Ventura Counties. The boundary of the SMMNRA also lies within or adjacent to the cities of Agoura Hills, Calabasas, Los Angeles, Beverly Hills, Malibu, Thousand Oaks, and Westlake Village. **Figure 13** illustrates the SMMNRA boundary relative to these cities. The SMMNRA encompasses a total of approximately 130,000 acres of land. Rural and urban residential development are, along with committed public and private

open space, the dominant land uses within the area. A significant portion of the area has been preserved for the purpose of environmental protection, recreation, and public safety. Commercial and industrial uses comprise a relatively small percentage of the area’s existing land use.

COASTAL ZONE MANAGEMENT

A significant amount of the SMMNRA occurs within the coastal zone. The SMMNRA includes approximately 40 miles of shoreline, stretching from Point Mugu to the city of Santa Monica. Numerous broad sandy beaches are the destination of millions of national recreation area visitors annually.

In 1976, the California State legislature enacted the Coastal Act to protect public accessibility to the coast, natural and agricultural resources, and the coastal landscape’s scenic beauty. In the Santa Monica Mountains the coastal zone protected under the Coastal Act extends five miles inland, to include approximately 93,500 acres of interior watershed. The coastal zone forms an important major wildlife network that sustains many scenic and natural resource values of the region. Coastal Act policies promote environmentally sustainable development in the mountains, and development proposals are analyzed for compliance with these policies. The Coastal Act has been a vital policy tool that helps park agencies protect natural resources in the face of considerable pressure from private landowners seeking to develop their properties. The Coastal Act intended development-permitting authority to eventually be transferred to local governments upon completion of their Local Coastal Plans (LCP). Ventura County completed the LCP for their portion of the Santa Monica Mountains, and has received coastal zone permitting authority. In Los Angeles County, responsibility for building

permit authority would be transferred from the California Coastal Commission to Los Angeles County upon completion of their Santa Monica Mountains LCP within the next two to three years.

LAND USE PLANS

Each of the counties, cities, and communities within and surrounding the SMMNRA has established land use plans to guide future development within their jurisdictions. These land use designations vary by jurisdiction, but all distinguish between areas of future development and open space. The relevant plans and policies regulating land use designations were reviewed for the SMMNRA and the surrounding area. These include *Los Angeles County's Malibu/Santa Monica Mountains Interim Area Plan*, *Santa Monica Mountains North Area Plan*, and *Malibu Local Coastal Plan*, as well as Ventura County's *South Coast Coastal Plan*, *Oak Park Plan*, and *Lake Sherwood-Hidden Valley Area Plan*. In addition, general plans for the cities of Agoura Hills, Calabasas, Beverly Hills, Malibu, Thousand Oaks, and Westlake Village, as well as relevant community plans from the city of Los Angeles, were evaluated. A general description of the existing and designated land uses within and surrounding the SMMNRA are provided below. Expected future development trends within the region are also discussed. Generalized designated land uses identified in the various general plans are illustrated in [Figure 14](#).

Los Angeles County Land Use Plans

EXISTING LAND USE

Land use adjacent to and within the unincorporated portions of the SMMNRA study area is primarily open space and residential in nature and rural in character. In the northern portion of unincorporated Los Angeles County, rural communities, scattered rural residences, and suburban

residential tracts dominate the area. Commercial and industrial development within these unincorporated northern portions of the SMMNRA is clustered in the area along the north side of Highway 101 and east of Parkway Calabasas, between the cities of Hidden Hills and Calabasas. Land use patterns within the southern coastal and mountainous portions of the county vary from commercial and high-density residential development along the Pacific Coast Highway to parcels of 40 acres or more located throughout the remainder of the area.

LAND USE PLANNING

Planned land use within the incorporated county of Los Angeles is guided through the implementation of individual community and city general plans. The current land use planning guidance document within the remaining unincorporated area is the *Malibu/Santa Monica Mountains Interim Area Plan* (Interim Plan), which was first adopted in 1981. The recently released *Santa Monica Mountains North Area Plan*, which supercedes the *Interim Plan* in the northern portion of the study area, would likely be approved in the near future. Therefore, while the *Interim Plan* is discussed below, the *North Area Plan* is also included in the analysis to provide adequate assessment of both existing and likely future land use policies. The Malibu LCP (adopted in 1986) has development authority over unincorporated areas of Los Angeles County that lie within the coastal zone. Efforts are underway to update and certify a revised plan for the coastal zone portion of the Santa Monica Mountains to provide a more comprehensive planning approach for the region as a whole (County of Los Angeles 2000). Upon adoption of the *North Area Plan*, the *Interim Plan* would be superceded by the land use policies included in the *North Area Plan* and the current Malibu LCP.

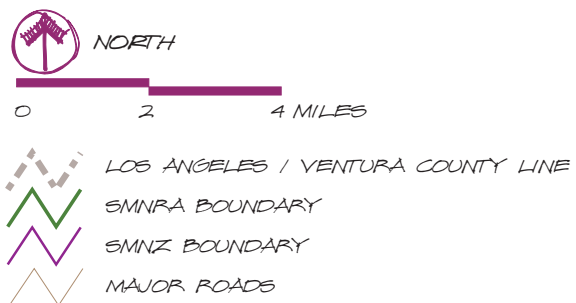
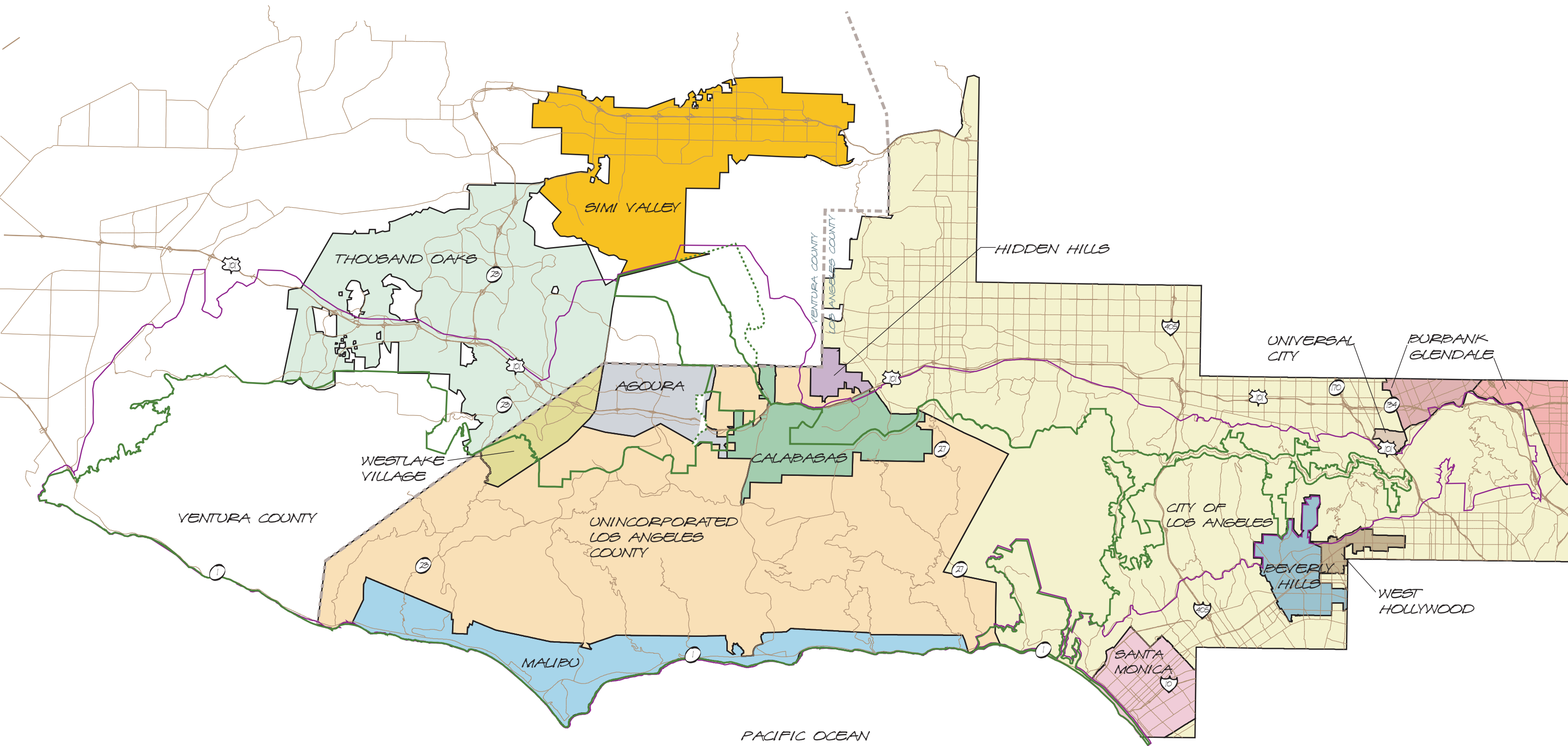
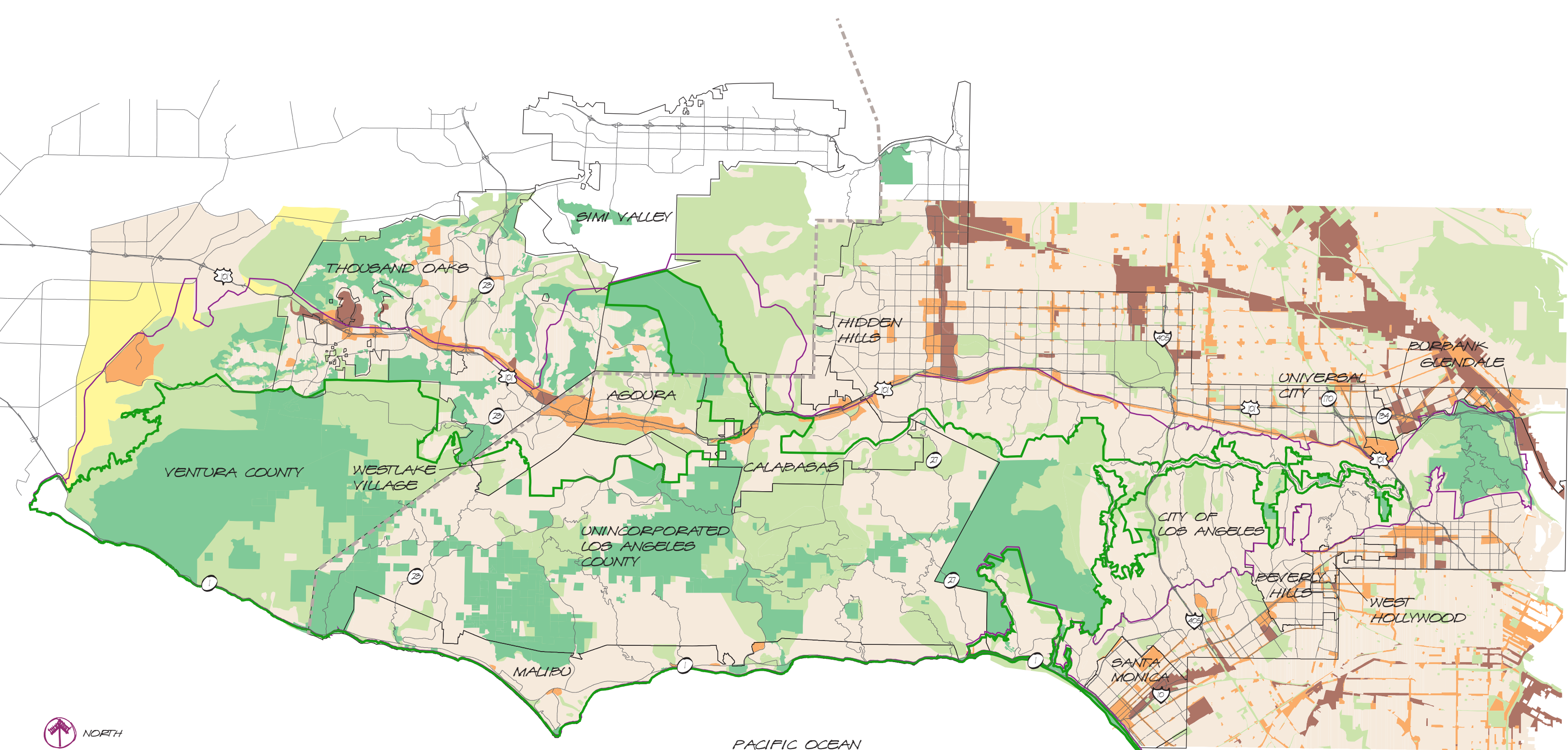


FIGURE 13:
CITY & COUNTY
JURISDICTIONAL
BOUNDARIES

SANTA MONICA MOUNTAINS
NATIONAL RECREATION AREA
CALIFORNIA

INCLUDES UNITS OF NPS, CALIFORNIA STATE PARKS,
AND THE SANTA MONICA MOUNTAINS CONSERVANCY

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NORTH

0 1 2 MILES

- COMMERCIAL
- INDUSTRIAL
- EXISTING PARK LAND
- OPEN SPACE- ACQUIRE FOR PARKLAND OR MINIMIZE DEVELOPMENT
- RESIDENTIAL
- AGRICULTURE
- LOS ANGELES / VENTURA COUNTY LINE
- SMNRA BOUNDARY
- SMNZ BOUNDARY
- MAJOR ROADS

FIGURE 14:

PROPOSED LAND USE BASED ON LOCAL PLANS SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA CALIFORNIA

INCLUDES UNITS OF NPS, CALIFORNIA STATE PARKS,
AND THE SANTA MONICA MOUNTAINS CONSERVANCY

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Malibu/Santa Monica Mountains Interim Area

Plan – The *Interim Plan* is incorporated as a component of the *Los Angeles County General Plan*, and was last reprinted with amendments in November of 1998. The *Interim Plan* study area represents the central portion of a 60-mile-long coastal mountain range from Ventura County to the metropolitan center of Los Angeles, an area that is expected to ultimately almost double in population size, from 65,000 to approximately 100,000 individuals (County of Los Angeles 1987). The *Interim Plan* identifies 10 goals to serve as principles to which the details of the plan must conform. These goals generally encourage the organized development of the region in a way that would minimize encroachment into existing natural open space areas and would provide a cohesive pattern of development. The *Interim Plan* emphasizes that a primary function of local government would be to provide for the regulation and location of private recreational development that is supportive of public recreation. The *Interim Plan* sets local policy on the location and intensity of public recreational facilities and environmental values that the county would encourage state and federal park programs to consider. In addition, the *Interim Plan* distinguishes between areas suitable for urban development and those to be maintained in rural conditions. The development policy of the *Interim Plan* limits urban development to locations that are adjacent to other urban uses, with available essential services and few natural constraints. In addition, the *Interim Plan* emphasizes that areas classified as rural are not to be encroached upon by urban development.

Santa Monica Mountains North Area Plan

The *Santa Monica Mountains North Area Plan* is a proposed plan to guide development within the unincorporated portions of Los Angeles County located north of the Coastal Zone. The *North Area Plan* would replace the

Malibu/Santa Monica Mountains Interim Area Plan that has been in effect since 1981.

The *North Area Plan* encompasses the 32.2 square miles (20,608 acres) of unincorporated Los Angeles County land west of the city of Los Angeles and north of the Coastal Zone.

The *North Area Plan's* conservation and open space element emphasizes that “resource protection has priority over development” and includes provisions to locate new development so that it conforms to constraints of the natural environment and contributes to the open space character of the area. Nearly 5,000 acres have been preserved within the planning area of the *North Area Plan*, including lands under the management of the NPS, California State Parks, and Santa Monica Mountains Conservancy. Although large additional blocks of open space currently exist within the region, these are not dedicated and remain available for various types and intensities of development. The *North Area Plan* draws a distinction, however, between areas that are suitable for urban/suburban development or expansion and those that are to be maintained as rural. In particular, the plan seeks to limit suburban development to those areas that are already developed, are adjacent to existing cities, have access to existing essential services, and have few natural constraints (i.e., steep hillsides). Areas classified in the *North Area Plan* as “rural” are not to be developed using suburban patterns. However, these areas, as well as areas classified as “mountain lands,” are available for low-density single-family residential development, in addition to various other low-density uses. The majority of county lands within and adjacent to the SMMNRA boundary are designated as “open space” (approximately 5,200 acres) and “mountain land” (approximately 13,500 acres) uses. Development within the area is expected to continue and the population is projected to ultimately increase to 9,000 individuals housed in 3,700 dwelling units at buildout.

Malibu Local Coastal Plan— The Malibu LCP was adopted in 1986 as a component of the *Los Angeles County General Plan Coastal Element*. It currently applies only to that area of Los Angeles County that remains unincorporated (the city of Malibu was incorporated in 1991 and is therefore no longer affected by the existing Malibu LCP). The area under the LCP encompasses 27 miles of the Pacific coast, from the Ventura County line to the Los Angeles city limits on the east, and extends from the Pacific Ocean to the slopes of the Santa Monica Mountains five miles inland. The LCP emphasizes that future development should be limited to areas within or adjacent to existing development, although it does not preclude development of low-density residential and institutional uses within the remainder of the area. Future development is therefore expected to primarily occur in the Coastal Terrace, which is the current focus of development in the region. Development of the Coastal Terrace, which only encompasses eight percent of the LCP area, would include infilling existing developed areas and some intensification of the major uses. Lower-density development within the mountain areas of the LCP region could accommodate an additional 2,050 new units.

Santa Monica Mountains Comprehensive Plan Modeled after the coastal plans of the Santa Monica Mountains, this plan was initiated to protect vital natural resources. The state of California formed the Santa Monica Mountains Comprehensive Planning Commission and gave that body the power to plan for the future of the mountains, but not the regulatory authority to ensure that its plans would be implemented. The Santa Monica Mountains Comprehensive Planning Act and subsequent adoption of a comprehensive plan established a direction

for maintenance and acquisition of lands in the study area to be held in public trust. A substantial portion of the study area is currently in public ownership, largely due to the sizeable parklands/open space owned and operated by various public agencies. Examples include, but are not limited to, Charmlee Natural Area, Deer Creek Canyon, Leo Carrillo State Beach, Malibu Lagoon State Park, Malibu Springs, Malibu Creek State Park, Point Dume State Reserve, Point Mugu State Park, Solstice Canyon, Topanga State Park, and Zuma/Trancas Canyons. Land ownership within the SMMNRA boundary is generally split between private land, which occupies 54 percent of the region, and public lands, of which parklands account for approximately 42 percent of the total area.

► **Ventura County Land Use Plans**

EXISTING LAND USE

A portion of Ventura County within the SMMNRA boundaries is mostly undeveloped open space. A relatively small percentage of the area, primarily south of Thousand Oaks and west of Westlake Village, is developed with rural residential uses or used for agricultural purposes. New residential development is being constructed west of Westlake Village, adjacent to Los Angeles County. Existing small pockets of rural and low-density residential uses and vineyards are scattered throughout the hilly central and southern sections of the county.

LAND USE PLANNING

Ventura County General Plan / Area Plan for the Coastal Zone— The study area is partially located within the south coast jurisdiction of the *Ventura County Coastal Area Plan*. The plan encompasses approximately 18,600 acres along 13.1 miles of the Pacific coast in Ventura County. Approximately 90 percent of the coastal subarea is designated “open

space” by the county, with minimum 10-acre lot sizes. The area includes most of the federally owned land in the county’s coastal zone, including the U.S. Navy Pacific Missile Test Center at Point Mugu. In addition, the area encompasses Mugu Lagoon, the last coastal estuary system in Southern California that still exists in its approximate natural site. Most of the area, which extends up to five miles inland, is undeveloped, with only segments along Deal’s Flat and the existing Solromar community developed. Point Mugu State Park is the area’s major recreational facility, encompassing 7,400 acres, and is part of the SMMNRA. Land between the park and Leo Carrillo State Beach has been identified for priority acquisition to the SMMNRA, as well as a number of other south coast properties. The area includes two youth camps which occupy approximately 1,788 acres near Yerba Buena Road and Little Sycamore Canyon. The camps are designated for rural land uses. All of the coastal area, except the Point Mugu Missile Test Center and the existing Solromar community, is designated as a special “Santa Monica Mountains” overlay zone that requires development to be assessed on a case-by-case basis to protect the Santa Monica Mountains as a coastal resource of statewide and regional significance.

The plan identifies policies regarding the SMMNRA (Policies 10-13). The policies indicate a dedication to increasing community access to existing and new parks, as well as a long-range planning perspective to increase park facilities. The plan also supports the maintenance of open space designations (minimum 10 acre lot size) within the Santa Monica Mountains, and encourages a possible redesignation of some areas to minimum lot sizes of 40 to 100 acres depending on slope, water availability, access, and geologic and fire hazards.

Ventura County General Plan South Half

The *Ventura County General Plan South Half* guides development in the portion of the study area located north of the coastal plan and west of the city of Thousand Oaks. Dedicated open space lands account for a very small percentage of the county’s total area and include local parklands and lands owned by the Santa Monica Mountains Conservancy. While these dedicated lands cannot be developed in the future, other portions of the county that are currently vacant, but designated for other uses, may be developed with various types and intensities of use. The county’s land use plan identifies the majority of county lands within and adjacent to the SMMNRA as open space. Allowable uses under this classification include rural residential (with 10-acre parcels), open space-recreation, and open space-resource protection. The majority of the open space area, an estimated 10,000 acres, is currently privately held within the county portion of the SMMNRA. Ventura County is one of the principal agricultural counties in the state. However, with the exception of some small horticulture and ranch-like uses, agricultural uses are not a prominent land use within the SMMNRA boundary.

Lake Sherwood/Hidden Valley Area Plan—

The Lake Sherwood/Hidden Valley area encompasses approximately 8,252 acres within Ventura County, adjacent to the Los Angeles County boundary and just west of Westlake Village. More than 85 percent of the area has designated open space lot sizes of more than 40 acres. The *Area Plan* projects an ultimate population of just over 4,000 individuals, primarily concentrated in the 950 acres that are designated as rural and urban residential areas. The majority of the remaining population is expected to remain on extremely low-density open space lots located throughout the rest of the area and ranging in size between 20 and 80 acres.

Oak Park Area Plan- The Oak Park area is comprised of 12,263 acres, with 11,096 acres planned for open space. Approximately 921 acres would be for residential development, 15.2 acres reserved for commercial uses, and 187.7 acres for community facilities. The plan identifies areas to be acquired and included in the open space system, including land between Cheeseboro Canyon and the Oak Park community. Acquired open space areas, as well as currently designated open space areas, would include deed restrictions to ensure their maintenance as open space into the future. The plan also includes a policy to ensure that all development and subdivisions of land shall be consistent with the *Santa Monica Mountains Comprehensive Plan* (Policy 3.7.2) in order to achieve the goal of maintaining consistency with the plans of the NPS, the Santa Monica Mountains Conservancy, and the city of Thousand Oaks.

City of Agoura Hills

EXISTING LAND USE

The city of Agoura Hills is currently located outside the northern SMMNRA boundary. Residential land uses represent approximately 31 percent of the city's land area, the majority of which are located north of Highway 101. Low-density residential land uses and single-family subdivisions are found primarily in the eastern portion to the city. With a few exceptions, all of the city's commercial uses are generally located along Highway 101 and Kanan Road north and south of Thousand Oaks Boulevard. Industrial development within Agoura Hills is located exclusively along Highway 101.

Agoura Hills is only partially urbanized, and contains many large areas of open space and undeveloped land. Open space and vacant parcels comprise about 44 percent of the city's area. Large tracts of hillside open space form Agoura Hills' northern and southern boundaries.

LAND USE PLANNING

Ladyface Mountain, located on the south side of the freeway, consists of approximately 747 acres of land, with 225 acres suitable for development. The remaining acreage is hillside property with a topographic slope exceeding 30 percent. The hillside would be maintained as open space. Overall, 36 percent of the city's area is committed to long-term open space, while residential development (in addition to Ladyface Mountain development) is expected to increase to occupy 1,724 acres, or almost 35 percent of the total city area. Commercial and business park uses are designated for only one percent of the city area.

City of Calabasas

EXISTING LAND USE

Numerous residential communities dominate the landscape west of Old Topanga Canyon Road. These land uses also occur on sites scattered throughout the hilly southeastern sections of the city of Calabasas. Older single-family tract housing occurs at the eastern and western portions of the city. Higher density residential uses are concentrated along Las Virgenes Road and at the extreme eastern corner of the city. Retail, office, and light industrial land uses also occupy a small portion of Calabasas. The current resident population of 27,000 individuals is located within the 13-square-mile (8320-acre) city, although the city has the potential of augmenting its jurisdiction to include an additional 12,186 acres of county unincorporated lands to the north and south.

LAND USE PLANNING

The city's *General Plan* establishes the necessary land use, development philosophy and direction to maintain the environmental, social, physical, and economic health and vitality of the city. The plan identifies suitable locations for growth for the city of Calabasas. The land use plan includes the

12,186 acres of land adjacent to the municipal boundary that could potentially be incorporated into the city, a part of which is located within the SMMNRA. The portion located in the SMMNRA is designated “non-urban,” which allows uses such as open space and rural residential. The city anticipates future development within infill parcels, at approved but not-yet-built project sites, and on the fringes of the existing urban areas where rural residential development currently exists. Its open space policy targets 3,000 acres of land to be reserved for purposes of resource conservation, recreation, and protection of public safety. In addition, approximately 81 acres of land are designated either commercial or commercial planned development. However, most of these uses are adjacent to or north of Highway 101, and not adjacent to the SMMNRA.

Dedicated open space lands account for 25 percent of the city’s area and cannot be developed in the future. They include local parklands and lands owned by the Santa Monica Mountains Conservancy.

► **City of Los Angeles Communities**

The following communities are located within the city of Los Angeles. These communities use separate land use guidance plans, which set forth goals, objectives, policies and programs that pertain to the respective communities. The following discussion describes the existing and designated land uses within the affected communities.

Bel Air – Beverly Crest Land Use Plans

EXISTING LAND USE

The Bel Air – Beverly Crest community is located south of Mulholland Drive, west of Laurel Canyon Boulevard and the city of Beverly Hills, north of Sunset Boulevard, and east of the San Diego Freeway. The Bel-Air Beverly Crest community is approximately

9,900 acres in size, and includes 541 acres owned by the Santa Monica Mountains Conservancy, as well as Los Angeles County land located in Franklin Canyon, which is part of the SMMNRA.

The community is characterized by a number of distinct residential neighborhoods associated with canyon and hillside locations. The areas that are in proximity to the SMMNRA include Laurel Canyon, Laurel Hills, Coldwater Canyon, Franklin Canyon, Benedict Canyon, and Beverly Glen.

LAND USE PLANNING

Bel Air-Beverly Crest Community Plan

The *Bel Air-Beverly Crest Community Plan* identifies the historic single-family residential character of much of the community as a valuable asset to protect and maintain. The plan encourages the development of more intensive multi-family housing and commercial uses outside of established single-family residential areas. Nineteen hundred acres of open space and 3600 acres of desirable open space are identified on the plan map. The currently designated open space, including the 541 acres owned by the Santa Monica Mountains Conservancy, would remain undeveloped and additional parcels of desirable open space would be purchased when feasible and appropriate. The plan states that designated open space is not intended for residential development or other urban uses. Instead, the space is to be used for recreation, wildlife refuge, and preservation areas.

Mulholland Scenic Parkway Specific Plan

Mulholland Drive stretches along the northern boundary of the Bel Air-Beverly Crest community area. A separate *Mulholland Scenic Parkway Specific Plan* guides development along the roadway, and is incorporated into affected local community plans to ensure the maintenance of Mulholland Drive as a scenic parkway in

the Santa Monica Mountains. *The Specific Plan* contains provisions to minimize the impacts of new development along the roadway, and to preserve open space and recreational uses in the area. In addition, the plan encourages the preservation of existing native vegetation and the natural environment surrounding it.

Brentwood – Pacific Palisades

EXISTING LAND USE

The Brentwood-Pacific Palisades community contains approximately 24,000 acres. The community is bordered on the southwest by the Pacific Ocean, on the south by the city of Santa Monica and Wilshire Boulevard, on the east by the San Diego Freeway, and on the north by Mulholland Drive. The western border is adjacent to the unincorporated portion of Los Angeles County, which abuts the city of Malibu. A large portion of the acreage contained within the community is mountainous, with public open space accounting for approximately 55 percent of the land area. In the Brentwood-Pacific Palisades community, an abundance of open space areas exist; separate from land under the control of the city. The federal, state, county and city properties in the community comprise approximately 13,157 acres of existing open space land, including Topanga and Will Rogers State Parks. Commercial uses are located along specific streets, totaling approximately 130 acres. No industrial uses exist in the community.

LAND USE PLANNING

The *Brentwood-Pacific Palisades Community Plan* identifies the desire to maintain existing single-family home portions of the community, as well as established multi-family areas of development. In addition, the Plan encourages the development of mixed-use areas near or within existing commercial zones to provide housing in

proximity to jobs. No industrial uses are designated within the community. Overall, residential land uses account for 41.4 percent of the total area, while open space accounts for 55.8 percent of the community area. Commercial uses only account for 0.7 percent of the community area. The Open Space element of the Plan emphasizes that natural resources within the plan area should be conserved and that priority of development in natural and scenic resource areas should be given to those uses which complement the resource.

Canoga Park – Winnetka – Woodland Hills – West Hills

EXISTING LAND USE

The Canoga Park-Winnetka-Woodland Hills-West Hills community is located within the northeastern portion of the SMMNRA. The portion of the community located within the SMMNRA boundary is generally bound on the east by Topanga Canyon Boulevard and on the west and north by Mulholland Drive. Land use south of Ventura Boulevard and adjacent to the study area is generally limited to rural residential and open space uses. Much of the community is on hillside and mountainous terrain.

LAND USE PLANNING

Canoga Park – Winnetka-Woodland Hills – West Hills Community Plan The *Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan* encompasses a total of 17,887 acres, much of which is located north of Ventura Boulevard. Land uses north of Ventura Boulevard are higher-density than those adjacent to the SMMNRA, which is characterized by low-density hillside residential development and open space. Overall, the community population is expected to be primarily low density residential development, with lower concentrations of medium and very

low density residential development. As much of the remaining undeveloped lands as feasible would be preserved for open space and recreational sites. The community plan also provides direction for future land uses and development through the *Mulholland Scenic Parkway Specific Plan*, as discussed above.

Ventura – Cahuenga Boulevard Corridor

Specific Plan— An additional specific plan addresses commercial development along the Ventura-Cahuenga Boulevard Corridor and has been adopted to guide development along the roadways. The plan establishes standards for building setbacks, signage, and other visual characteristics to enhance the community aesthetics and to make the commercial center more pedestrian-oriented and reduce traffic congestion.

Encino-Tarzana

EXISTING LAND USE

The Encino-Tarzana community is located adjacent to a portion of the northern boundary of the SMMNRA boundary. Existing land uses in proximity to the SMMNRA are generally limited to single-family estate homes located along the hillside of the planning area. In recent years, there has been increasing pressure for development in the hillside areas close to the SMMNRA boundary. The Santa Monica Mountains Conservancy has acquired vast sections of the mountain/hillside areas in the plan area. These open space recreation area lands are considered highly valuable and serve to fulfill the recreational needs of the community since topographical constraints do not allow for the development of community park sites (Howell, 1999). Land use within the community is currently divided between a number of uses, including 64 percent residential, 33 percent open space, and 2.9 and 0.4 percent commercial and industrial, respectively.

LAND USE PLANNING

The current focus of commercial and industrial land uses within the Encino business district along Ventura Boulevard and within the Tarzana business district near both Reseda and Ventura Boulevards is proposed to remain the community's primary regionally significant commercial areas. The two commercial areas provide concentrations of medium residential apartment development as well as serving as the focal points for shopping, civic, and social activities for Tarzana and office uses for Encino. The plan projects a maximum development capacity of 33,630 dwelling units. The distribution of dwelling units would be split between medium density (25 percent), low density (28 percent), and very low density (39 percent) housing. Open space and local park acquisitions and development are also identified as a priority for the community, although no specific provisions are made to either protect existing space or acquire additional space. Both the *Mulholland Scenic Parkway Specific Plan* and *Ventura/Cahuenga Boulevard Corridor Specific Plan* apply to this community as well.

Hollywood

EXISTING LAND USE

The SMMNRA is located within a very limited portion of the Hollywood community area. The Mulholland Drive scenic corridor, which traverses through the northwestern portion of the area, and Runyon Park are two specific recreation area features within the community plan area. Hollywood Freeway (Highway 101) on the east and Laurel Canyon Boulevard on the west generally bound Mulholland Drive scenic corridor segment. Existing land uses within the community of Hollywood as a whole include 38 percent open space, which is concentrated in the northwest portion of the community, outside the SMMNRA project

area. Residential uses constitute 52 percent, with high-density development centered along Sunset Boulevard and low-density development primarily located in the hills to the north, much of which is within the SMMNRA boundary.

LAND USE PLANNING

The community plan has designated the portion of Mulholland Drive within the plan area as part of the *Mulholland Scenic Parkway Specific Plan*. While the community plan designates areas on each side of the roadway for low density residential uses, the specific plan has also assigned buffer zones on each side of the roadway to limit future development adjacent to the roadway. One buffer zone is 500-feet-wide and the other is a half-mile wide. Other than the provision identified in the *Mulholland Scenic Parkway Specific Plan*, as discussed above, the community plan makes no other recommendation relative to the SMMNRA.

Sherman Oaks – Studio City – Toluca Lake – Cahuenga Pass

EXISTING LAND USE

The Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass community is located adjacent to the northeast boundary of the SMMNRA. The community plan is bound by the communities of North Hollywood, Van Nuys-North Sherman Oaks on the north, Hollywood, Universal City and a portion of the city of Burbank on the east, Encino-Tarzana on the west and Beverly Crest-Bel Air to the south. Land use within the SMMNRA and areas adjacent to the boundary is limited to low-density residential and open space. Currently, Coldwater Canyon Park and Wilacre Park, both part of the SMMNRA, provide recreational and open space resources to the community. Mulholland Drive traverses the planning area along its entire length.

LAND USE PLANNING

The *Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass Community Plan* provides local guidance for future development within the area. The Community Plan identifies future development sites, and emphasizes the need to keep industrial uses north of Ventura Boulevard, near other higher-intensity uses, such as medium-density residential and commercial uses. The plan projects most of the population would be housed in either low- or low-medium density residential development. The plan also emphasizes the desire to maintain the historic single-family residential character of much of the area, which comprises at least 68 percent of the community. Seven percent of the community is designated open space, which primarily occurs as local parks scattered north of Ventura Boulevard due to constraints on park development in the southern hillside portion of the community. Both the *Mulholland Scenic Parkway Specific Plan* and the *Ventura/Cahuenga Boulevard Corridor Specific Plan* apply to this community.

City of Beverly Hills

EXISTING LAND USE

The city of Beverly Hills is an affluent urban environment within the greater Los Angeles area. There is very little open space or undeveloped land. Parks make up less than three percent of the city's land and vacant land occupies less than two percent. The city's land uses feature approximately 70 percent residential and 10 percent commercial development.

Santa Monica Boulevard, a major transportation route, subdivides the city. Single-family residences are the predominant land use north of Santa Monica Boulevard, whereas the land south of Santa Monica Boulevard is used for mostly commercial or multi-family residential development and other uses.

LAND USE PLANNING

Providing long-term stability and maintaining the quality of life are the priorities of the city of Beverly Hills. The city proposes to accomplish these objectives by recognizing and responding to issues, such as the deterioration of older housing, the loss of the competitive ability of commercial areas, and the increased problems with parking and accessibility. Substantially greater residential development is proposed in the city's *General Plan*. The plan also proposes potential limits on strip commercial land uses. The plan proposes that the city evaluate whether commercial development is appropriate in specific locations, whether it should be encouraged and concentrated in certain parts of a commercial area, and whether it should be discouraged in others. The city also recommends that industrial areas should be planned for their eventual phase-out, to later be redeveloped for residential uses – with the exception of the area generally bounded by Santa Monica Boulevard, Beverly Boulevard, Foothill Road, Alden Drive and Maple Drive.

City of Malibu

EXISTING LAND USE

The city of Malibu extends along the coastline, forming the southern-most boundary of the recreation area. City growth over the past 70 years has resulted in a combination of parks and open space, rural residential development, commercial uses, and visitor-serving facilities, located primarily along the Pacific Coast Highway. Approximately 22 percent of the city area is occupied by residential development that currently includes 5,623 units on 2,707 acres. Dedicated open space accounts for 1,870 acres, while vacant land comprises the majority of land in the city of 7,578 acres. Existing land use types within and adjacent to the SMMNRA boundary consist mostly of low-density residential uses and vacant and open space uses.

LAND USE PLANNING

Federal, state, city and other public agencies and private entities comprise the land ownership groups in the city of Malibu. Due to its unique environmental value, history of park development and the creation of the SMMNRA, a significant portion of the city is in public ownership. About 60 percent of the land from shoreline to coastal hills is privately owned. Vacant land and open space within Malibu occupy 89 percent of the city area and consist of undeveloped land, parks, public and privately owned beaches, environmental hazard areas (i.e., flood plain and earthquake prone areas), steep slopes, and existing natural conservation areas. Several goals, objectives, and implementation measures in the city's general plan emphasize the need to protect and enhance the natural and environmental resources of the city. Public open space, including regional and local parks, beach parks, and public open space used for recreation, total 1,870 acres. Of this total, 744 acres are developed regional and local parks. Agricultural practices also occur on a very small fraction of the land within the city. Horticulture and horse ranches are more common, and occur most frequently in conjunction with residential development or as a transitional use of the land. Horticultural uses, including retail and wholesale commercial operations, occupy about 25 acres citywide, while horse ranches occupy approximately 40 acres of land in the city.

City of Thousand Oaks

EXISTING LAND USE

As shown in Figure 13, the SMMNRA generally abuts the southern boundary of the city, with some overlap. Land use between the east-west circulation routes of Highway 101 and Potrero Road consists of residential, nonresidential and open space. Prominent knolls and hills are present throughout the city.

Approximately 50 percent of the city is developed. Nonresidential uses such as commercial, commercial-industrial, industrial and institutional generally occur along major roadways in proximity to Highway 101 and locations that serve residential communities throughout the city. The open space system consists of existing and planned parks, recreation areas, golf courses and lands not developable due to natural physical features. The city has also established two agricultural preserves (on 298 acres) and associated Land Conservation Act contracts with the property owners, although the plan notes the unsuitability of the soil and other conditions that make large-scale agricultural operations impractical.

LAND USE PLANNING

The city of Thousand Oaks plan area encompasses 60 square miles (38,400 acres). Eighty percent of residential areas within the city are planned for single-family residential development, while the remaining 20 percent is planned for multi-family housing. Numerous policies within the city's general plan identify the need to cluster development and limit road access and development to preserve large, contiguous open space areas. Much of the plan area is reserved for open space. Ownership patterns within the city consist of multiple public and private entities. Due to its open space system and associated land management policy, public entities own and manage 12,894 acres of open space lands. An additional 1,300 acres of open space are planned, increasing the city's open space acreage to 41 percent of its total land area.

City of Westlake Village

EXISTING LAND USE

The city of Westlake Village encompasses 5.62 square miles (3597 acres) and is located approximately 40 miles northwest of Los

Angeles. The city is bound by the city of Thousand Oaks in the northwest at the Los Angeles-Ventura County line, the city of Agoura Hills on the east and southeast, and the county of Los Angeles to the south and west (refer to Figure 13). A relatively large portion of the SMMNRA is located within the city's corporate boundaries. Land use within the city of Westlake Village is divided between 1,333 acres of open space, which accounts for 37 percent of the entire city area, 757 acres of residential land uses, and 833 acres of vacant land, as well as minimal areas of rights-of-way, industrial, commercial, and public lands. A majority of the residential land uses within the city are located south of Highway 101 in the central portion of the city. Commercial uses are limited to areas close to Highway 101. A majority of the industrial and business park uses are centered north and south of the Highway 101/Lindero Canyon Road interchange.

LAND USE PLANNING

The *City of Westlake Village General Plan* indicates that much of the area's current open space may potentially be developed in the future, including the large expanses of hillside area along the eastern city boundary. One of the major privately owned parcels that remains open space includes an approximate 342-acre parcel owned by the Las Virgenes Municipal Water District. No public open space lands are located within the SMMNRA boundaries. While 62 percent of the current undeveloped acreage would continue to be preserved as open space, the remainder is available for development. These potential developments are primarily low-density residential in nature, and the ultimate developed densities remain uncertain due to the occurrence of steep slopes and rock outcrops in some of the areas. At buildout, the *General Plan* estimates that a maximum of 990 additional

residential units could be developed. According to the city's implementation programs, the city would continue to work with groups in the acquisition and maintenance of open space lands, including the SMMNRA.

Population, Housing, and Employment

POPULATION CONDITIONS

Los Angeles County is the most populous county in the state while Ventura County maintains a population that is ranked 14th in the state overall. According to recent census information, the population of Los Angeles County grew approximately 18 percent between 1980 and 1990. During the same period the population of Ventura County rose approximately 28 percent (higher than the state average of 26 percent) or approximately 10,000 – 15,000 per year.

Although Los Angeles County experienced the slowest growth in the

nine-county southern California area in recent years, overall county population is expected to increase approximately 10 to 15 percent by the year 2000. Ventura County is expected to increase approximately 14 to 16 percent in population by the year 2000. Refer to Table 17 for the Southern California Association of Governments (SCAG) population growth forecast in the project affected areas.

HOUSING CONDITIONS

Population in the recreation area-affected counties has continued to increase faster than the supply of new housing units. In much of the two affected counties, this has resulted in increased household size and lower vacancy rates. Housing patterns in the two affected counties have tended toward multi-family dwellings and away from single-family units. The total housing stock in Los Angeles County in 1990 was approximately 3.2 million units. This represented a 10 percent increase in the

Table 17

POPULATION FORECASTS				
Geographic Area*	1990	2000	2010	2015
City of Los Angeles	3,618,000	4,118,000	4,766,000	5,079,000
VCOG: Ventura County	669,000	774,000	872,000	930,000
VCOG: L.A. County Cities	138,000	183,000	225,000	250,000
Westside Cities	221,000	240,000	261,000	271,000
Subtotal	4,646,000	5,315,000	6,124,000	6,530,000
Affected Counties	1990	2000	2010	2015
County of Los Angeles	8,860,000	9,950,000	11,286,000	11,943,000
County of Ventura	669,000	774,000	872,000	930,000
Subtotal Counties	9,529,000	10,724,000	12,158,000	12,873,000
Total SCAG Region	14,637,000	17,515,000	20,516,000	22,000,000

* The boundaries of the geographic areas are coterminous with the subregions utilized by the Southern California Association of Governments (SCAG), including the city of Los Angeles, two segments of the Ventura Council of Governments (VCOG), and the Westside Cities.

Source: SCAG Regional Comprehensive Plan (1996).



Table 18

HOUSING FORECASTS				
Geographic Area*	1990	2000	2010	2015
City of Los Angeles	1,345,000	1,484,000	1,676,000	1,783,000
VCOG: Ventura County	228,000	272,000	314,000	337,000
VCOG: L.A. County Cities	52,000	66,000	80,000	89,000
Westside Cities	117,000	124,000	131,000	136,000
Subtotal	1,742,000	1,946,000	2,201,000	2,345,000
Affected Counties	1990	2000	2010	2015
County of Los Angeles	3,161,000	3,472,000	3,872,000	4,098,000
County of Ventura	228,000	272,000	314,000	337,000
Subtotal Counties	3,389,000	3,744,000	4,186,000	4,435,000
Total SCAG Region	5,328,000	6,189,000	7,249,000	7,820,000

*The boundaries of the geographic areas are coterminous with the subregions utilized by the Southern California Association of Governments (SCAG), including the city of Los Angeles, two segments of the Ventura Council of Governments (VCOG), and the Westside Cities.

Source: SCAG Regional Comprehensive Plan (1996).

total number of housing units from 1980 counts, as compared to a corresponding 12 percent increase in population between 1980 and 1990 estimates. Housing forecasts for Los Angeles County are expected to grow approximately 10 to 12 percent by the year 2000. In 1980, Ventura County had an estimated 179,500 housing units and grew to approximately 228,000, an increase of approximately 27 percent. This unusually high increase in housing units could be attributed to the county experiencing one of the highest growth rates in the southern California region during the 1980s and early 1990s and also to available, affordable open space relative to Los Angeles County that could be developed. Housing forecasts for Ventura County is expected to grow approximately 20 percent by the year 2000. Refer to Table 18 for housing growth forecast in the project affected areas.

EMPLOYMENT CONDITIONS

According to data provided by the Los Angeles and Ventura Counties, the services sector is currently the major employment sector in the study area. Wholesale and retail trade account for approximately 20-25 percent of workers in the study area, while manufacturing accounts for approximately 15 percent of the employment.

According to socioeconomic projections shown in Table 19, the rate of employment grew in the study area by approximately 8 to 10 percent between the years 1990 and 2000. As shown in the employment forecasts listed in Table 19, employment would increase at similar rates between the 2000 and 2010. According to the socioeconomic data and discussions with planners from project-affected cities and counties, the area surrounding the SMMNRA is considered to be a "jobs rich" area.

Transportation

REGIONAL AND LOCAL HIGHWAY NETWORK

The existing transportation setting and conditions in the vicinity of the Santa Monica National Recreation Area are described below and illustrated in Figure 15. Information for the description was obtained from field observations and traffic volume count data obtained from the Southern California Association of Governments.

The Santa Monica Mountains National Recreation Area (SMMNRA) is generally located west of Los Angeles between the Pacific Ocean and the San Fernando Valley. Within the boundaries of the SMMNRA are several state parks and numerous private home sites. Pacific Coast Highway, which is State Route 1, and Highway 101 (also known as Ventura or Hollywood Freeway) are the major east-west arterials through the area near the SMMNRA. Both of these highways serve as major commuter

corridors connecting Los Angeles with the residential areas in the surrounding counties. Mulholland Highway, which runs along the mountain crests, is the only scenic corridor within the SMMNRA that has a general east-west alignment.

Several roads traverse the SMMNRA in a general north-south alignment. These roads include Interstate 405 (San Diego Freeway), Topanga Canyon Boulevard (State Route 27), Malibu Canyon Road/Las Virgenes Road, Kanan Dume Road, and Decker Road/Westlake Boulevard (State Route 23). Of these, I-405, Malibu Canyon Road and Kanan Dume Road are most heavily used by commuter traffic. These north-south connectors link PCH with the communities located along Highway 101: Woodland Hills, Calabasas, Agoura Hills, Westlake Village, and Thousand Oaks. The major east-west arterials and the north-south connector routes make up the arterial network in and around the SMMNRA.

Table 19

EMPLOYMENT FORECASTS				
Geographic Area*	1990	2000	2010	2015
City of Los Angeles	1,965,000	2,072,000	2,213,000	2,276,000
VCOG: Ventura County	275,000	337,000	410,000	444,000
VCOG: L.A. County Cities	68,000	82,000	93,000	98,000
Westside Cities	231,000	247,000	261,000	268,000
Subtotal	2,539,000	2,738,000	2,977,000	3,086,000
Affected Counties	1990	2000	2010	2015
County of Los Angeles	4,610,000	5,084,000	5,670,000	5,912,000
County of Ventura	275,000	337,000	410,000	444,000
Subtotal Counties	4,885,000	5,421,000	6,080,000	6,356,000
Total SCAG Region	7,076,000	8,205,000	9,691,000	10,257,000

*The boundaries of the geographic areas are coterminous with the subregions utilized by the Southern California Association of Governments (SCAG), including the city of Los Angeles, two segments of the Ventura Council of Governments (VCOG), and the Westside Cities.

Source: SCAG Regional Comprehensive Plan (1996).



Table 20

LEVEL OF SERVICE SUMMARY				
Route	From	To	1998 ADT	1998 LOS*
U.S. Hwy 101	Las Virgenes Rd.	Kanan Rd.	183,200	E
Mulholland Hwy.	Topanga Canyon	Old Topanga Canyon	7,400	D
Mulholland Hwy.	Topanga Canyon Blvd.	Malibu Canyon Rd.	2,800	B
Mulholland Hwy.	Kanan Dume	SR 23	150	
PCH	I-10	Sunset Blvd.	68,700	E
PCH	Malibu Canyon Rd.	Kanan Dume	26,000	B
PCH	SR 23	Point Mugu	10,800	A/D**
Topanga Cyn.	PCH	Mulholland	14,200	E
Malibu Cyn. Rd.	PCH	Mulholland	22,800	F
Kanan Dume Rd.	PCH	Mulholland	10,700	E
SR 23	PCH	Mulholland	1,000	A

* LOS represents PM peak hour conditions.

** LOS A/D represents LOS A where there are two travel lanes in the direction of travel and LOS D where there is only one travel lane.

The arterial routes mentioned on the previous page provide for the movement of the vast majority of the traffic that passes near or through the SMMNRA. There are numerous smaller roads that branch off the arterial network, and provide direct access to the residences and visitor use areas located within the SMMNRA.

Average Daily Traffic (ADT) volumes that use the roads best define the current traffic conditions on the roads in the vicinity of the SMMNRA. The California Department of Transportation and the Southern California Association of Governments (SCAG) maintain a database that contains traffic volume data for many of the roads within the study area. This database of information was used to identify the existing traffic volumes. This information, which represents 1998 volume data, is presented in **Figure 15**.

A Level of Service (LOS) analysis was performed on various roads in the vicinity of the SMMNRA. LOS represents the range

of operating conditions for different types of facilities. The value is based on the ability of a road or intersection to accommodate varying amounts of traffic. These levels are given letter designations from A to F, whereby LOS A represents the best operating conditions and LOS F the worst or saturated flow conditions. This analysis is intended to determine how well roads are currently functioning, with respect to variables such as traffic flow and other prevailing conditions. The LOS evaluation was conducted according to the procedures outlined in the Transportation Research Board's *Highway Capacity Manual (HCM) - Special Report 209* and the *Highway Capacity Software (HCS)* for roadway sections. Field data collected in April of 1999 was used in the analysis, along with SCAG traffic volume data. A summary of the LOS analysis for the major routes in and near the SMMNRA is presented in Table 20.



Based on the LOS analysis it appears that three of the four north-south route connections across the SMMNRA are currently operating at or near capacity during the PM peak hour. Highway 101 and the eastern portion of PCH are also operating at capacity. Mulholland Highway between Topanga Canyon Boulevard and Old Topanga Canyon Road is currently operating at LOS D. All other roads within the study area are currently operating at an acceptable LOS.

A description of the major roadways within the study area is provided below, including a brief description of the roadway and the roadside environment, the existing traffic use, and the LOS provided under the current traffic conditions.

► **(U.S.) Highway 101**

Highway 101 traverses the full length of the state of California and is a major arterial that carries local and regional traffic. Highway 101 within the study area travels through the San Fernando Valley between the Santa Monica Mountains and the Santa Susana Mountains. Highway 101 is a divided, eight-lane limited access highway, with an interstate design including interchanges and on- and off-ramps. This highway is used heavily by commuters and local and regional truck traffic traveling in and out of Los Angeles. The ADT volume on Highway 101 within the study area varies between 119,000 and 294,600 vehicles per day (VPD). This highway operates at or near capacity (LOS E) during the weekday morning and evening peak travel periods. During the off-peak periods the highway operates at LOS C/D, providing moderate to poor service.

► **Pacific Coast Highway (State Route 1)**

Pacific Coast Highway is located between the SMMNRA and the Pacific Ocean. PCH was constructed in the 1920s and is the only coastal arterial along this section of coastline. PCH is situated immediately behind the

beaches and beach front properties, and is generally at an elevation between five and fifty feet above mean sea level. This section of PCH is included in the *Master Plan of State Highways Eligible for Official Scenic Highway Designation*. PCH is also part of the state-designated bicycle route extending from the Oregon border to Mexico.

Most of PCH adjacent to the SMMNRA, including the portion through Malibu, is a four-lane facility with left turn pockets. The treatment of the center median varies from flush painted islands to raised islands with concrete curbs. The eastern portion of PCH near Santa Monica consists of six travel lanes with a center turn lane, while the portion at the west end of the study area near Point Mugu consists of three travel lanes. In the area where there are three lanes, the third travel lane is used as an additional travel lane that alternates between eastbound and westbound directions. The posted speed limit on PCH varies between 45 and 50 mph.

The roadside environment along PCH is diverse. On-street parking is permitted on both sides of the road in most areas. The ocean side of the road is lined with driveways that access private properties and beachfront commercial establishments. Numerous public parking lots for beach patrons gain access directly from PCH. The land side of the road is lined with commercial establishments in many areas, especially from Malibu east. Steep hillsides border the land side of PCH in many areas, and is unsuitable for development due to the steep grade.

All of the routes that lead into the mountains to the north connect to PCH. All of the major junctions are controlled with traffic signals. There are approximately 24 signalized intersections along PCH within the study area. The side roads at the minor intersections are controlled with stop signs. Designated pedestrian crossings are provided

at most signalized intersections. At least one traffic signal near the pier in Malibu is present for the express purpose of providing for pedestrian traffic crossing PCH.

The ADT volume on PCH varies widely. Daily volumes range between 10,800 in the west to 68,700 in the east. PCH east of Kanan Dume Road is used as a major commuter route connecting Los Angeles and the surrounding communities. Traffic on PCH reaches well-defined peaks during the morning and evening commute hours. On average weekdays, between 6:00 a.m. and 9:00 a.m., and between 3:00 p.m. and 7:00 p.m., this corridor experiences heavy traffic with moderate congestion. Traffic congestion frequently occurs on PCH between Malibu and Santa Monica during the evening peak hours.

PCH is the sole access route to numerous state beaches and several county beaches and parks. It is estimated that the beaches along PCH receive more than 30 million visitors per year. On nice weekends, during the year and everyday during the summer, PCH experiences significant traffic generated by visitors to the beach and the SMMNRA. During these times, vehicles park along both sides of the road, and pedestrian traffic along the road and crossing the road increases significantly. Both of these factors tend to reduce the performance of PCH, which results in high levels of traffic congestion. Access to the parking lots and business establishments becomes more difficult due to the bumper-to-bumper roadside parking and the traffic congestion. Traffic congestion is greatest in the areas in and around Malibu and near the public beaches. Traffic congestion is much less of a problem in the areas west of Zuma Beach. The relatively high traffic volumes and traffic congestion associated with peak use periods makes it difficult for visitors to find and access their planned destinations.

The worst traffic congestion is typically associated with traffic returning to the city at the end of the day, especially at the end of a weekend. In these cases, eastbound traffic backs up on PCH for miles as stop-and-go traffic moves towards Santa Monica and access points to Interstate 10.

■ **Mulholland Highway**

Mulholland Highway was built during the 1920s and 1930s. It is a two-lane highway that traverses the crest of the Santa Monica Mountains, beginning at the Topanga Canyon Boulevard and intersecting with PCH near Sequit Point in the western portion of the SMMNRA. Mulholland is designated as a scenic corridor and provides excellent views of the SMMNRA and the surrounding area. Mulholland provides access to many of the visitor-use areas within the SMMNRA including the Backbone Trail, the Paramount Ranch, and several state parks. The Mulholland corridor is designated as a regional bicycle route within Los Angeles County.

Mulholland Highway has little or no paved shoulder area and only a few designated pullouts. Most of Mulholland has a posted speed limit of 55 mph. Side roads are controlled by stop signs, giving the right-of-way to traffic on Mulholland.

Mulholland Drive is the eastern extension of Mulholland Highway. Mulholland Drive begins on the east side of Topanga Canyon Boulevard and extends east to its junction with the Hollywood Freeway (Highway 101). A six-mile-long section of Mulholland Drive between Topanga Canyon Boulevard and the San Diego Freeway is unpaved and closed to public vehicles. The remaining section of Mulholland Drive is similar in character to Mulholland Highway.

Traffic volumes on Mulholland Highway vary between a high of 7,400 ADT at the eastern end near Topanga Canyon Boulevard

to 2,800 ADT near Malibu Canyon Road. The lowest volumes on Mulholland Highway are found west of Malibu Canyon Road where traffic volumes are generally less than 500 ADT. For the most part, Mulholland Highway is not used as a commuter route, although it is the home-to-work route for some of the residents that live within the SMMNRA. There is no evidence of any significant traffic congestion on Mulholland at this time. Visitors to the SMMNRA and the state parks, as well as the local property owners, generate most of the traffic on Mulholland.

The LOS analysis indicates that western portions of Mulholland Highway are operating at an acceptable LOS A/B. The road segment near Topanga Canyon Boulevard is currently operating at LOS D.

Field observations indicate that most motorists drive this route at or near the 55mph speed limit. This tends to make it difficult for new visitors to the corridor to experience the numerous scenic vistas, without creating a safety problem for themselves and other motorists. There is a noticeable lack of designated pullout areas along this scenic corridor.

► **Interstate 405 (San Diego Freeway)**

Interstate 405 runs north-south and cuts across the eastern end of the SMMNRA. It intersects Mulholland Drive at a grade-separated interchange where Mulholland passes over the interstate. I-405 carries large volumes of regional commuter traffic and is heavily used throughout the day, with significant traffic congestion occurring during the peak commuter hours. I-405 is a multi-lane divided highway that carries 357,100 vehicles per day.

► **Topanga Canyon Boulevard (State Route 27)**

Topanga Canyon Boulevard is a two-lane roadway that crosses over the Santa Monica Mountains in the eastern portion of the

SMMNRA. The road connects PCH with Highway 101. This road is used as a major commuter route through the SMMNRA, and experiences relatively high speed and high volume traffic during peak commuter hours. The commuter-generated traffic congestion is worst during the morning peak hours.

The road provides for recreational access to Topanga State Park, the Backbone Trail, and the beaches along PCH. Traffic volumes on Topanga Canyon Boulevard vary between 13,400 and 14,200 ADT. The Topanga Canyon Boulevard is currently operating at LOS E.

► **Malibu Canyon Road/Las Virgenes Road**

Malibu Canyon Road is a major north-south commuter route through the SMMNRA. The road begins at PCH in Malibu and ends at Highway 101 near the community of Calabasas. The majority of the road passes through undeveloped land controlled by the SMMNRA or Malibu Creek State Park. North of Mulholland Highway the road name changes to Las Virgenes Road. Near the northern terminus of the route, Las Virgenes Road passes through a developing residential area.

The Malibu Canyon/Las Virgenes corridor consists of a two-lane roadway with steep grades and numerous curve sections. The road is not equipped with any auxiliary climbing lanes. There is one 1,000-foot-long passing lane located about one-half way over the mountains. There are few intersections along this route. The major intersections are controlled by traffic signals. These intersections include the junctions with PCH, Piuma Road, Mulholland Highway, Lost Hills Road, Meadow Creek Road, Agoura Road, and the ramps at Highway 101. The posted speed limit for Malibu Canyon Road is 50 mph. The speed limit is reduced from 50 mph to 45 mph between Meadow Creek



Road and Highway 101 at the northern end of Las Virgenes Road. The road is equipped with roadway lighting and reflectorized raised pavement markers.

This corridor carries heavy volumes of commuter traffic with well-defined morning and afternoon peak hours. The Malibu Canyon corridor carries the largest volume of cross-mountain traffic of the four north-south connectors within the SMMNRA, with an average daily traffic volume of 22,800 vehicles. With current volumes, the corridors are providing LOS F during the peak travel hours of the day.

► **Kanan Dume Road**

The Kanan Dume Road begins at PCH, crosses the mountains, and connects to Highway 101 near Agoura Hills. Kanan Dume Road provides access to Mulholland Highway, the visitor-use areas at Rocky Oaks, the Zuma/Trancas Canyons, and the beaches along the coast. The road is a two-lane facility, with separate turn lanes at all major intersections. It is also equipped with streetlights and raised pavement markers. The road has several steep grades where additional climbing lanes have been provided. The most significant grade is three miles long with an eight-percent grade. This particular grade is near the south end of the road on the approach to PCH and is equipped with an emergency truck run-out lane. There are three tunnels located on the Kanan Dume Road. The pavement widens at these tunnels to accommodate two southbound lanes and a single northbound lane. The southern portion of this road has a truck restriction limiting vehicles to 8,000 pounds or two axles.

The Kanan Dume Road is used as a commuter route. The road has a volume of 10,700 vehicles per day. Traffic is relatively heavy during morning and evening peak hours. Field observations indicate that most

vehicles are traveling at or over the 50 mph posted speed limit. The Kanan Dume Road currently operates at LOS E.

► **Decker Road/Westlake Boulevard
(State Route 23)**

State Route 23 through the SMMNRA consists of three roads. The route begins at PCH on Decker Road, which leads up into the mountains. Decker Road intersects Mulholland Highway about four miles from the coast. Route 23 continues along Mulholland for about two miles until it intersects Westlake Boulevard. Route 23 continues on Westlake Boulevard until it intersects Highway 101 in Westlake Village. This corridor is very curvy, resulting in relatively slow vehicle speeds (35 mph). Commuters do not heavily use this route. The route provides access to the recreational areas located in the western portion of the SMMNRA. The corridor carries the least traffic of the four north-south connectors through the SMMNRA, with a daily traffic volume of 1,000 vehicles. State Route 23 is currently providing LOS A.

► **Minor Roads**

There are numerous minor roads that connect to the major routes mentioned above. These minor roads are typically two-lane paved roads that lead to trailhead parking areas and provide access to private lands within the SMMNRA. These minor roads do not carry any notable amount of commuter traffic and usually carry relatively low volumes of recreational traffic. It is estimated that most of these minor roads carry less than 500 vehicles per day.

PUBLIC TRANSPORTATION

There is very little public transportation available within the SMMNRA. The Los Angeles County Metropolitan Transit Authority (L.A. Metro) provides transit bus service along Highway 101 as far west as

Westlake and along PCH as far west as Trancas Canyon. These bus services make connections to other bus routes that access the greater Los Angeles area.

There is no form of direct fixed route bus service between the Highway 101 corridor and PCH. The only way to make the connection is to ride around the eastern end of the SMMNRA on L.A. Metro using several different lines to get from the Highway 101 corridor to the beaches. The only buses operating on the north-south route connections through the SMMNRA are the summer beach buses that operate between Zuma Beach and the communities of Calabasas and Agoura Hills. There is no bus service along Mulholland Highway.

Charter buses, carrying inter-city visitors, travel to the SMMNRA for day outings. These bus groups typically involve school children or the elderly on preplanned field trips to a particular area of the SMMNRA. The amount of charter bus activity is relatively low and occurs on a demand basis. Various community programs for inter-city residents usually sponsor these trips. The following public transportation services are available near the SMMNRA.

► **Highway 101 Commuter Express**

L.A. Metro operates a commuter express bus service along Highway 101 during weekday commuter hours. This service connects Westlake Village with Agoura Hills and Calabasas, and then travels on Highway 101 toward the city. This service consists of four to six buses traveling inbound in the morning, and a similar number of buses operating outbound during the evening commuter hours.

► **#161 Bus Line**

L.A. Metro operates the #161 bus along the same route as the 101 commuter express. This bus line operates between the hours

of 6:00 a.m. and 6:00 p.m. Buses run about every 20 to 30 minutes on weekdays and every two hours on weekends.

► **#434 Bus Line**

The #434 bus line of the L. A. Metro system operates along PCH and goes as far west as Trancas Canyon. This bus runs every 20 to 30 minutes during weekdays and every two hours on weekends. The hours of operation are between 6:00 a.m. and 6:00 p.m. The #434 bus line provides the only public access to the beaches and the community of Malibu.

► **Summer Beach Buses**

Both the communities of Calabasas and Agoura Hills are operating seasonal beach buses that take riders to Zuma Beach. These beach buses operate only during the summer months. The Calabasas Beach Bus makes four round-trips between the city of Calabasas and Zuma Beach each weekday during the summer. The beach bus picks up riders in four locations and costs \$1.00 per round-trip.

The Agoura Hills Beach Bus is similar to the operation in Calabasas. It provides transit service between Agoura Hills and Zuma Beach. The bus picks up riders at three locations within Agoura Hills. The bus operates on weekdays only during the summer and makes four round-trips per day. The cost is \$0.50 each way.

► **Pepperdine Van Pool**

Pepperdine University operates a vanpool between the university and the Calabasas and Agoura Hills area. This van pool service is available during the school year for students only.

PARKING FACILITIES

There are about 50 parking areas that serve the various beaches, trailheads and other visitor-use areas within the SMMNRA. The beaches along PCH have parking areas that

hold 100 vehicles or more. Most of the trailhead parking areas are relatively small with capacities of less than 50 vehicles. The more popular parking areas are paved, while many of the more remote trailhead parking areas are not.

All of the beach parking areas experience parking demands that exceed the lot capacity during the summer months. During the off-seasons these lots are adequate in size for the parking demand. The majority of the other parking areas within the SMMNRA are of a size to accommodate the typical parking demand. Many of these parking areas are of a size and/or configuration that limits the size of the vehicles that can use them. In these instances, buses often have difficulty using these parking areas.

The one non-beach parking area that is not large enough to accommodate the typical demand is located at the end of Chesebro Road on the north side of Highway 101. This parking area is popular with bicyclists and hikers that use the adjacent trail system and often fills to capacity on weekends.

Public Services and Utilities

The following discussion summarizes the current setting of public services and utilities supporting the SMMNRA.

PUBLIC SAFETY

NPS Visitor Safety Services (VSS) provide service to all lands owned by NPS. The VSS also provides law enforcement and security for park structures. VSS works closely with several law enforcement entities, such as the Los Angeles and Ventura County Sheriff's departments, and maintains cooperative relationships with other administering agencies. A total of nine full-time staff is available.

The California State Parks provides public safety to recreation area visitors in eight state

parks within the SMMNRA. A total of 24 permanent state park rangers and four permanent state park lifeguards patrol these areas on foot, bicycle, boat and vehicle. During peak operational months, there are 35 seasonal lifeguards providing aquatic safety to recreation area visitors using coastal state parks within the SMMNRA.

For lands and structures outside of the VSS and CSP jurisdiction, police protection services are provided through city and county governments.

The Los Angeles County Sheriff's Department provides police protection services to portions of the SMMNRA within unincorporated Los Angeles. The department is divided into 10 divisions (LA County web page). The Malibu/Lost Hills stations serve the west end of Los Angeles County, including the contract cities of Agoura Hills, Calabasas, Westlake Village, Malibu, and Hidden Hills, and the unincorporated communities of Topanga, Chatsworth, West Hills, and the Santa Monica Mountains (LA County web page). The Malibu/Lost Hills Stations maintains approximately 150 to 200 sworn officers. Law enforcement activities focus primarily on traffic patrol.

Portions of the SMMNRA located within Ventura County are served by the Ventura County Sheriff's Department. The department is comprised of seven divisions. The department is headquartered in Ventura and maintains stations in Camarillo, Fillmore, Lockwood Valley, Moorpark, Ojai, and Thousand Oaks.

FIRE PROTECTION AND EMERGENCY RESPONSE

NPS VSS also provides fire suppression and emergency response service to all lands owned by NPS. Backup is provided by the Los Angeles and Ventura County fire departments.



FIRE ECOLOGY AND MANAGEMENT

THE SANTA MONICA MOUNTAINS National Recreation Area is unique among National Park Service units in that it is subject to excessive fire. Increasing population densities in the urban fringe have resulted in an increase in the number of fires and a decrease in fire rotation intervals. Although fire is a natural and important component of the ecosystem, unnaturally high fire frequencies are altering the native vegetation structure, facilitating invasion of non-native species and, in the worst case, converting native chaparral communities to non-native grasslands. Because prescribed burning for fuel reduction further increases fire frequency, vegetation management for hazard reduction is in conflict with sound ecological management. This problem is further complicated by the recent recognition by the scientific community that the current practice of rotational prescribed burning across the landscape is not effective in reducing the large extreme-weather fires that present the greatest hazard.

It is the policy of the Santa Monica Mountains National Recreation Area to manage natural areas in a manner that maintains and enhances ecological values while at the same time assuring public safety. The goal is to implement a fire management program that helps to maintain a fire regime that sustains natural biotic associations and ecosystem functions while providing effective and strategic defenses against wildfire.

The park's prescribed burning program would be revised to reflect an increased understanding of the potential ecological impacts of prescribed burning, a new understanding of extreme-weather fire behavior, and a recognition of the limited capacity of government agencies to implement prescribed burning. Similarly, wildfire response plans would be developed that provide for effective suppression while minimizing ecological impacts. To this end, ecological management zones would be defined and established where vegetation is managed for ecological values, and dynamic fuel management zones for hazard reduction at the wildland-urban interface.

*Santa Monica Mountains National Recreation Area
Draft GMP/EIS*

The Los Angeles County Fire Department provides fire protection services to the SMMNRA as part of the larger consolidated Fire Protection District of Los Angeles. The department protects life and property by providing fire prevention, fire suppression, fire investigation, a hazardous materials response team, and rescue and related services. The Los Angeles County Fire Department operates out of 149 stations and employs approximately 94 chief officers, 620 captains, 1,750 firefighters and firefighter specialists, 800 paramedics, 30 foresters, and many other support personnel in various divisions (LA County web page). Fire stations are located in Agoura Hills, Westlake Village, and Calabasas. The district maintains the following resources that could be made

available for fire protection: (1) 144 engine companies, (2) 5 helicopters, and (3) numerous pieces of surface equipment. The California Department of Forestry and the U.S. Forest Service provide fire protection services for state and federal lands, respectively, within and adjacent to the SMMNRA. The district meets with representatives from each jurisdiction annually to address fire prevention and protection needs.

The Ventura County Fire Protection District serves the unincorporated regions of Ventura County, as well as other municipalities in the area. The city of Ventura has its own separate fire department staffed with paid firefighters at stations located throughout the city.



Wildfire in the Santa Monica Mountains (NPS photo).

WATER

The Las Virgenes Municipal Water District (LVMWD) supplies all potable and reclaimed water to portions of the SMMNRA, with the exception of the area east of Old Topanga Canyon Road. This area is served by the Los Angeles County Water Works District. The LVMWD has traditionally purchased 100 percent of its potable water from the Metropolitan Water District of Southern California (MWD), and has recently worked toward blending groundwater pumped from the Westlake Village area with imported water supplies. Potable water is distributed to the LVMWD by two feeder lines operated by the MWD: West Valley Feeder No. 1 and West Valley Feeder No. 2. Both lines carry water from the State Water Project to water facilities in the central San Fernando Valley and the Calabasas/Western Los Angeles County areas.

Although development in the area can be found in varied topography, such as valleys and steep hillsides, the LVMWD has few problems and constraints with delivering adequate water and water pressure to these areas. In some of the more remote areas and high elevations, extension of water facilities is possible, but would be extremely costly.

WASTEWATER

Wastewater treatment services are provided by septic system within the lands owned by the three administering agencies.

County sanitation districts serve the remaining urbanized areas. The Los Angeles County Sanitation District provides 29 sanitation systems distributed throughout the county. The LVMWD is also responsible for wastewater treatment and disposal services in the area. Local feeders are maintained by the county's sanitation districts, and are connected to the LVMWD's main trunk lines. Wastewater is conveyed through LVMWD trunk lines to the Tapia

Water Reclamation Facility (located within the SMMNRA boundaries) where the sewage receives tertiary treatment. The plant has sufficient capacity to accommodate projected growth until the year 2010.

SMMNRA lands within Ventura County are within two sanitation districts: the city of Thousand Oaks and Triunfo County Sanitary District. No community sewage treatment facilities exist within the Ventura County portion of the SMMNRA. The city of Thousand Oaks operates the Hill Canyon Wastewater Treatment Plant. The plant has sufficient capacity to handle regional flows until the year 2010. Wastewater within the Triunfo County Sanitation District flows in the Tapia Wastewater Treatment Plant (*Ventura County General Plan*, 1988).

Although a majority of the study area is connected to sewers, septic systems serve most of the rural hillside areas. Previous development within the hillside areas has been largely scattered, thus requiring the use of septic systems as a practical matter. However, although many septic systems employ state-of-the-art technologies, numerous septic tank failures have been reported in older systems within the mountain areas. For some areas not served by sewers, assessment districts have been established and fees are being assessed to residents on septic systems for the ultimate connection into the LVMWD trunk lines.

WASTE MANAGEMENT

Solid waste management services are provided to the SMMNRA by the Calabasas Landfill. The Calabasas Landfill operates within the SMMNRA, and is located adjacent to the Ventura Freeway on Lost Hills Road near Agoura, California. The landfill currently operates as a non-hazardous municipal solid waste landfill and is operated by the Sanitation Districts of Los Angeles County. In operation since 1961, the landfill



was established 17 years prior to the creation of the SMMNRA. The landfill currently accepts an average of 2,500 tons or refuse per day.

ENERGY

Electricity and natural gas are the primary sources of energy used in the Santa Monica Mountains area. Southern California Edison and the city of Los Angeles Department of Water and Power (LADWP) provide electricity to areas within the SMMNRA. The majority of electric transmission lines in the area are 66 kilovolt (kv) transmission lines and 16 kv distribution lines. The 16 kv lines are located underground and adjacent to major roadways. Both electric power providers currently maintain adequate capacity to service existing users and planned growth. Southern California Gas Company provides natural gas to this area (NPS 1999). Natural gas is also provided to the study area by subsidiaries, which oversee transmission mains and local distribution lines. Distribution lines extend throughout the study area to serve existing development (with the exception of hillside areas). To plan for future growth, additional natural gas facilities are planned for development. The existing and planned facilities are adequate to meet the area's natural gas demand.

Environmental Consequences



*The Santa Monica
Mountains protect
the greatest expanse
of mainland
Mediterranean
ecosystem in the
national park system.*



ENVIRONMENTAL CONSEQUENCES

Introduction

The draft general management plan presented previously in this document is conceptual in nature. Therefore, the following environmental analysis is necessarily quite general. Many of the action items presented in the draft document would require additional environmental analysis, in the form of environmental assessments or environmental impact statements, prior to implementation. Many items would also require additional compliance with federal biological and cultural resources laws and regulations.

This “Environmental Consequences” chapter describes the impacts of implementing each alternative. The chapter is organized by alternative, with scientific disciplines (except those dismissed from further consideration) presented as subtopics in the same order as the chapter on affected environment. These scientific disciplines include:

- Soils and Geology
- Water Resources
- Flood Plains
- Biological Resources and Wetlands
- Paleontology
- Cultural Resources
- Visitor Experience
- Land Use and Socioeconomic Environment

Before the presentation of impacts, there is a summary of regulations and policies that guide and limit management actions, which are listed by the scientific disciplines. This is followed by the methods and assumptions used to assess the impacts on each discipline. Then, the environmental impacts of each alternative are discussed. Cumulative impacts and conclusion statements are also discussed where appropriate.

▲ *Plant life
flourishes
in the Park
(NPS photo).*

Impact Topics Dismissed from Further Consideration

ENVIRONMENTAL JUSTICE

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low income populations and communities.

For the purpose of fulfilling Executive Order 12898, in the context of the National Environmental Policy Act, the alternatives addressed in this plan were assessed during the planning process. It was determined that none of these alternatives would result in discernable disproportionately adverse effects on any minority or low income population or community. The following information contributed to this conclusion:

- The development and actions in the alternatives would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect negative or adverse effects on any minority or low-income population or community.
- The impacts on the natural and physical environment that would occur due to any of the alternatives would not adversely affect any minority or low-income population or community.
- The alternatives would not result in any identified effects that would be specific to any minority or low income community.

- The park staff has consulted and worked with the affected American Indian tribes in cooperative efforts to effectively manage the recreational potential of the park and its tourist related resources and will continue to do so. Also, no negative or adverse effects were identified that disproportionately and adversely affect the tribes.
- Impacts on the socioeconomic environment due to the alternatives are minor or positive and occur mostly within the local and regional geographic area near the park. These impacts would not occur at one time, but would be spread over a number of years, this, reducing their effects. Also impacts on the socioeconomic environment are not expected to substantially alter the physical and social structure of the nearby communities.

AIR QUALITY

The majority of the airborne pollutants that affect the Santa Monica Mountains National Recreation Area are generated by automobile and truck traffic. The other pollutant source is from construction activities. The growth of the greater Los Angeles metropolitan area over time would cause an increase in the amount of traffic using the roads in and near the SMMNRA. The amount of traffic that would use these roads is primarily determined by the growth of the surrounding communities and not by any actions of the SMMNRA.

None of the alternatives considered in this draft general management plan and environmental impact statement would measurably change the amount of traffic-related airborne pollutants generated within the study area. These alternatives would result in only a few minor shifts in traffic patterns and would generate few new

vehicle trips into the area. As a result the actions included in the alternatives considered would not create any measurable long-term air quality impacts. Regional growth, on the other hand, would increase the volume of traffic using the roads within the study area which would result in associated increases in vehicle generated pollutants.

Some of the planned facilities included in the action alternatives would require construction activities that would increase the amount of particulate matter from diesel powered construction equipment and construction generated dust. The air quality impacts resulting from construction activities included in the action alternatives are expected to be minor and of short duration.

NOISE

The largest noise generator within the SMMNRA is from traffic using the roadways. The alternatives considered in this draft GMP/EIS would not alter the fleet mix using the roads or vehicle speeds. The actions included in the alternatives considered would result in only a few minor shifts in traffic patterns and would generate few new vehicle trips into the area. As a result, none of these alternatives would create any measurable long-term noise impacts. However, additional traffic generated by regional growth is expected to occur on the roads within the study area, which would increase traffic-generated noise.

Some of the planned facilities included in the action alternatives would require construction activities that would generate construction-related noise (primarily from construction equipment). The noise impacts from construction activities would be concentrated in the areas near the construction sites and be of short duration.

Analysis of Impacts

METHODS FOR EVALUATING IMPACTS

Overview of Regulatory Compliance

The draft General Management Plan and Environmental Impact Statement describes a number of projects that could be implemented in the future. In general, these projects are in the conceptual stage and specific environmental regulatory compliance requirements cannot be set forth at this stage. However, the statutes, regulations, laws and ordinances that would affect projects undertaken by the National Park Service, California State Parks and Santa Monica Mountains Conservancy are described below.

NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) provides guidance for the analysis of environmental impacts. A summary of analytical concepts that are utilized in the environmental consequences section is provided below.

A “significant” impact as defined in NEPA requires considerations of both context and intensity. (40 CFR 1508.27) Context means that the significance of an action must be analyzed in several perceptions, such as the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For example, in the case of a site-specific action, significance would usually depend upon the effects in relation to specific locale rather than in the region as a whole.

“Intensity” refers to the severity of the impact. Impacts of an action are characterized as negligible, minor, moderate,

or major. Criteria for characterization of impact intensity varies by discipline, but generally follows this scheme:

- **Negligible**— Effects are considered not detectable and would have no discernible effect on a resource.
- **Minor** — Impacts are present but not expected to have an overall effect on a resource.
- **Moderate**— Impacts are clearly detectable and could have an appreciable effect on a resource.
- **Major** — Impacts would have a substantial, highly noticeable influence on a resource.

Impacts may be either beneficial or adverse. Context and intensity are evaluated for beneficial as well as adverse impacts. All impacts are described as temporary, short-term, or long-term.

In 40 CFR 1508.7, a “cumulative” impact is defined as the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of which agency (federal or non-federal agency) or person undertakes such other actions. A cumulative impacts analysis could be described as an $x + y = z$ equation, where x represents the impacts of the actions proposed under each alternative; y is the past, present, and reasonably foreseeable future actions; and z is the cumulative impacts. The geographical context for cumulative impacts and the relevant impacts of past, present, and reasonably foreseeable future actions are examined by discipline. Methods for cumulative impacts analyses are described in greater detail in the “Cumulative Impacts Methodology” section of this chapter.

Mitigation measures would be implemented wherever adverse environmental impacts are identified. Mitigation measures include:

- A) Avoiding the impact altogether by not implementing a certain action or portion of an action.
- B) Minimizing impacts by limiting the intensity or extent of the action.
- C) Rectifying the impact by restoring the affected environment in close vicinity of the impact (onsite).
- D) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- E) Compensating for the impact by replacing or providing substitute resources or environments elsewhere (offsite) (40 CFR 1508.20).

Mitigation measures for each of the alternatives are incorporated into the environmental consequences discussion of each resource issue area and are listed under each alternative in the alternatives chapter of this GMP/EIS. Where applicable, the term “irreversible commitment of resources” is used in this document. It is interpreted to mean that resources, once committed to the proposed project, would continue to be committed and production or irreversible use of resources would be made with implementation of the project. In addition, the term “irretrievable commitment of resources” might be used. It is interpreted to mean that those resources used, consumed, destroyed, or degraded during construction, operation, and maintenance of the proposed project could not be retrieved or replaced by the project.

NATURAL RESOURCES

Soils and Geology

There are no environmental permits related to this discipline.

In assessing the environmental consequences on soil and geologic resources in the five management alternatives, direct

and indirect impacts were considered. Direct impacts are defined to occur when effects caused by the action occur at the same time and place (40 CFR 1508.8(a)). An example of a direct impact on soils and geologic resources would be the alteration of a natural slope by grading a level building pad. Indirect impacts are defined to occur when effects that are caused by the action occur later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR 1508.8(b)). An example of an indirect impact on soils and geologic resources would be the increase in erosion of surficial soils resulting from road and pad construction in and adjacent to the project area during grading.

The duration of impacts has also been considered. Temporary (short-term) impacts would occur during the implementation phase of a proposed action. Long-term impacts would occur for the duration of the SMMNRA designation.

The draft GMP/EIS seeks to avoid or minimize adverse impacts on soils and geologic resources whenever possible. It also seeks to avoid or reduce hazards to the public arising from geologic conditions within the project site resulting from the proposed action. The degree to which the action might adversely affect a resource or create a potential exposure to a geologic hazard is described by the following impact intensity levels:

- **Negligible**— Effects that are not detectable and would have no discernible effect on public safety and soil resources.
- **Minor** — Impacts are present but are not expected to have an overall effect on public safety or soil resources.
- **Moderate**— Impacts are clearly detectable and could have an appreciable effect on public safety and soil resources.
- **Major** — Impacts would have a substantial, highly noticeable influence on public safety and soil resources.

Major impacts might arise from projects that impose mass wasting hazards (mudslides, debris flows, and landslides) on other properties, particularly if projects are constructed on or adjacent to slope hazards or earthquake faults. Major impacts on drainage patterns, vegetative cover or erosion rates might involve soil loss or even slope failures during periods of heavy rainfall. Modifications to drainage patterns or erosion rates would result in changes to the long- and short-term relationships between soil-plant-water patterns.

Cumulative impacts to soil and geologic resources resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are discussed. Details on the analysis of the cumulative impacts are described in the “Cumulative Impacts Methodology” section.

Water Resources

The U.S. Geological Survey, California Department of Water Resources and California Department of Fish and Game regularly monitor water quality in California. These agencies regulate activities affecting water quality through the issuance of water discharge permits and other enforceable orders. The following statutes, laws and regulations for water resources are applied:

- **Clean Water Act: A National Pollutant Discharge Elimination System (NPDES)** is required for all point source discharges of pollutants to surface waters. Storm water discharges are regulated under this permit. Three general permits have been issued in California to control pollution in storm water including discharges from municipalities, industry and construction activities. A Section 404 permit must be obtained from the U.S. Army Corps of Engineers for the disposal of dredge or fill material in waters of the United States, which includes wetlands.



- **California Porter-Cologne Act (Chapter 5.5, Division 7 of the California Water Code)**—Waste discharge requirements are equivalent to a federal NPDES permit and are required for point source discharge of pollutants to surface waters.
- **Coastal Zone Management Act (CZMA)**—Portions of the SMMNRA are within the coastal zone. Federally owned lands are subject only to the CZMA. The California Coastal Commission would conduct a consistency review with the CZMA to determine whether or not the specific projects would have significant effects on coastal resources. This consistency review occurs under federal law and is not subject to CEQA.
- **California Coastal Act (Public Resources Code Sections 30000 et seq.)**—A coastal development permit must be obtained from the California Coastal Commission for development activities within the coastal zone, including state coastal waters, that are not on federal lands.
- **Temporary Construction Permit**—The State Lands Commission regulates the use of the lands seaward of the mean high tide line on the project site. A temporary construction permit or letter of permission would be required to move equipment across any beaches. A lease would be required for temporary or permanent structures on lands owned by the State Lands Commission.

Potential direct, indirect, temporary and permanent impacts were evaluated to assess the environmental consequences on water resources in the five management alternatives. An example of a direct impact on water resources would be the alteration of a drainage pattern or streambed to accommodate road construction. An example of an indirect impact on water resources would be the increase in pollutants

in a stream from spilled automotive fluids adjacent to a new road. Temporary impacts would occur during the implementation phase of the project, short-term impacts would be those that occur for up to one year, and long-term impacts would occur after full implementation and for the duration of the SMMNRA designation. Impacts on unique or rare resources of the area, such as those in proximity to perennial waters, or ecologically critical areas are considered.

The intensity, or severity, of an impact is described as negligible, minor, moderate, or major. The criteria for characterizing impact intensities are described as follows:

- **Negligible**—Effects that are not detectable and would have no discernible effect on the hydrology or quality of waterbodies.
- **Minor**—Effects on hydrologic processes that are slightly detectable but are not expected to have an overall effect on the character of waterbodies or flood plains.
- **Moderate**—Impacts are clearly detectable and could have an appreciable effect on hydrologic processes, the adjacent flood plain, or water quality.
- **Major**—Impacts would have a substantial, highly noticeable influence on the hydrologic environment and could permanently alter hydrologic processes, flood plain formation and evolution, and water quality.

Moderate to major hydrological impacts might arise from a project that imposes flood hazards on other properties, results in increased runoff, or decreases area available for aquifer recharge, which might affect well-water supplies. Major impacts on stream hydrology might result from uncontrolled runoff that causes erosion and subsequent sedimentation of downstream water bodies, especially if grading would occur during the rainy season or adjacent to bodies of water or drainageways.

Modified drainage patterns might also create substantial changes to streamflow velocities. If a project incorporates extraction of water from an aquifer, a moderate to major effect might result if there would be a net deficit in aquifer volume or a reduction in the local groundwater table level.

Pollution or contamination from projects might result in moderate impacts to human health and safety in addition to affecting plant and wildlife species. Major water quality impacts might result from a project that would directly or indirectly generate any amounts of highly noxious substances, or any substances in large amounts that, while in small amounts are insignificant, are cumulatively hazardous.

Moderate to major impacts on water quality in water bodies might result from moderate to large-scale grading (greater than 2,000 cubic yards per graded acre) within their associated drainage basins, or from projects that cause loss of vegetation on watershed slopes through grading or brush management measures.

Cumulative impacts to water resources resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Flood Plains

The following policies related to flood plains are applied:

- **Flood Plain Management**– The NPS manages flood plains in accordance with Executive Order 11988, “Flood Plain Management” and NPS Special Directive 93-4, (*Flood Plain Management Guideline*). In brief, NPS policy is to protect natural flood plain values and functions and to minimize risk to life or property by avoiding the use of the “regulatory” flood plain whenever

there is a feasible alternative location.

The “regulatory” flood is defined as the 100-year, 500-year, or maximum possible flood depending on the type of activity and the amount of risk inherent in the nature of flooding at a location.

- **For critical actions (as defined in the Flood Plain Management Guideline)** – such as schools, hospitals, and large fuel storage facilities, the regulatory flood plain is defined as the 500-year flood plain in non-flash flood areas. When there is no practicable alternative to a flood plain location, NPS policy permits the use of the flood plain when there are compelling reasons for doing so, when the level of impact to natural flood plain processes is acceptable, and when the mitigation is provided to protect human life and property.

Potential direct, indirect, temporary and permanent impacts were evaluated to assess the environmental consequences related to flood plains in the five management alternatives. Evaluating impacts of the alternatives as it relates to flood plains has been based primarily on avoiding the loss of life and property during major floods. Removing structures from the 100-year flood plain would be considered a beneficial effect on human life or property. Building new structures and increasing the duration of human activity in the 100-year flood plain would be considered an adverse impact to human life or property.

The intensity, or severity, of an impact is described as negligible, minor, moderate, or major. The criteria for characterizing impact intensities are described below:

- **Negligible**– Effects that are not detectable and would not affect human life or property.
- **Minor** – Increasing accessibility to flood plains for short duration with no structures or camping (e.g. hiking or riding trails).

- **Moderate**– Overnight occupation by a small number of people and a limited number of structures in flood plains would be considered moderate impacts.
- **Major** – Construction of multiple structures in flood plains or other features that would increase access to flood plains or encourage activities of extended duration would also be considered as major.

Cumulative impacts related to flood plains resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Biological Resources and Wetlands

Applicable statutes, laws and regulations for biological resources and wetlands include the following:

- **Federal Endangered Species Act** This act requires federal agencies to consult with the U.S. Fish and Wildlife Service if the agencies determine that their actions would affect any threatened or endangered species. Any incidental take of a listed species would require a Section 7 consultation with the U.S. Fish and Wildlife Service and possibly the National Marine Fisheries Service for incidental take of upland habitats (e.g., beach or sage scrub) occupied by listed species. California Endangered Species Act: Similar to the federal act, this statute requires state and local agencies with discretionary decisions to make on projects to consult with the California Department of Fish and Game if California: listed threatened or endangered species might be affected.
- **Fish and Game Section 1603** Under the California Fish and Game Code, Section 1603, administering agencies must obtain a Streambed Alteration Agreement with the California Department of Fish and Game before filling or altering a streambed.

- **Wetlands**– The wetland protection mechanisms used by NPS include Executive Order 11990, *Protection of Wetlands*; Director’s Order #77-1, *Wetland Protection*, and its accompanying Procedural Manual #77-1; Clean Water Act Section 404; and the “no net loss” goal outlined by the White House Office on Environmental Policy in 1993. Executive Order 11990 requires that leadership be provided by involved agencies to minimize the destruction, loss, or degradation of wetlands. NPS Director’s Order #77-1 and Procedural Manual #77-1 provide specific procedures for carrying out the Executive Order. Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act authorize the Army Corps of Engineers to grant permits for construction and disposal of dredged material in waters in the United States.

The biological resources and wetlands section of this document discusses the general impacts and mitigation for each of the proposed alternatives, including the no action alternative.

Potential direct and indirect, temporary and permanent impacts were evaluated to assess the environmental consequences on biological resources and wetlands in the five management alternatives. An example of a direct impact on biological/wetland resources would be the removal of riparian vegetation or habitat as a result of road construction. An example of an indirect impact on biological resources would be reduced wildlife use of habitat adjacent to a new road due to traffic noise.

Project impacts are considered on unique or rare resources of the area, such as wetlands, perennial waters, or ecologically critical areas. The degree to which the action might adversely affect an endangered or threatened species or its habitat under the Endangered Species Act is also considered.

The intensity of impacts in the biological resource and wetland analysis is defined as:

- **Negligible**– Impact is barely perceptible and measureable; remains localized and confined to a single, non-sensitive biological element under discussion, such as a single location, population, process, species, community, or other biological entity. An example would be the removal of ten individuals of a common shrub from the edge of a chaparral-covered slope next to a building.
 - **Minor** – Impact is perceptible and measureable; remains localized and confined to a single or few elements of a non-sensitive biological element under discussion, such as a single location, population, process, species, community, or other entity that is recognized as relatively common, and that would recover from disturbances in a relatively short time period (years). An example would be the removal of a tenth of an acre of California Buckwheat on the edge of a hillside covered with coastal sage scrub vegetation during the re-grading a previously constructed campground.
 - **Moderate**– Impact is sufficient to cause a change in character-defining features of a biological element; generally involves a single or small group of elements in a biological community, process, species, or other entity that is moderately to highly sensitive to human development, encroachment, or disturbance, and that would recover from disturbances in a moderate time period (decades). An example might be the removal of a half acre patch of grassland vegetation adjacent to a larger, thirty acre grassland covering a hillside and valley. The small patch, while used for raptor foraging, is not critical to the survival of any species utilizing it.
 - **Major** – Impact results in substantial and highly noticeable change in character-defining features; involves a large group of contributing elements, or involves an individually significant element with a significantly important ecological role in a biological community, process, species, or other entity that is highly sensitive to human development, encroachment, or disturbance, and that may not recover from the impact within the SMMNRA or region. Examples would include the blockage of a wildlife movement corridor by a building, the removal of a threatened, endangered, or rare species by grading, the disturbance of a critical wildlife corridor between two large habitat patches by a foot trail, or the elimination of the last remnants of a particular habitat, community, process, or other biological entity from the SMMNRA.
- The duration of an impact in the biological analysis section is defined as follows:
- **Temporary** – Impacts that last only during, or shortly after, construction, such as noise or water runoff patterns during construction.
 - **Short Term** – Impacts that persist for a season or two, such as the loss of herbaceous ground cover on graded soils.
 - **LongTerm** – Impacts that are longer than two years, including those that persist for the life of the project, and possibly beyond.
- Impacts and mitigation measures identified for biological and wetland resources in this document are generalized. Specific impacts and mitigation would be identified in NEPA documents for particular projects within the SMMNRA when the projects are identified and the regulatory documents are produced.
- Cumulative impacts to biological resources resulting from the effects of other plans and projects combined with

the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Paleontology

The following statutes and regulations apply to paleontologic resources in the SMMNRA:

- **Federal Antiquities Act of 1906 (P.39-209;34 Stat.225,16 U.S.C.432,433)** – This act forbids the disturbance of any object of antiquity on federal lands without a federal permit, and establishes sanctions for unauthorized appropriation of antiquities.
- **National Environmental Policy Act of 1969 (P.L.91-100;Stat.852,42 U.S.C.4321-4327)** – This act requires that important natural aspects of the national heritage be considered in assessing the environmental consequences of a proposed project on federal lands, or a project requiring federal entitlement.
- **Archeological and Historic Preservation Act of May 24, 1974 (88 Stat.174;Sections 3 (a) and 4(a))** – This act provides for the preservation of historical and archeological data, which might be lost as a result of federal projects or of federally licensed projects or activities. The noted sections require survey for, and protection or recovery of, objects or data of scientific significance that are threatened by construction projects.

In assessing paleontologic sensitivity of geological formations, and direct and indirect impacts to non-renewable paleontologic resources, standards were employed that are typically used within the community of professional paleontologists, as memorialized by the guidelines of the Society of Vertebrate Paleontology (Reynolds, 1995). For assessing resource potential, the geological literature provides information regarding whether a particular rock unit (formation) is fossiliferous. If the unit is known to be fossiliferous it is

assigned sensitivity rating of “high.” If the geological unit was formed in such a fashion that fossils might theoretically be preserved but are rare or unknown from that unit, then sensitivity ratings of “low” or “moderate” are assigned, depending on the characteristics of the particular unit. Finally, certain rocks were formed in such a fashion as to preclude fossil preservation, such as granite, and many (but not all) other igneous rocks. These rock units possess no paleontologic sensitivity and project effects on these units would not impact paleontologic resources.

Impact intensity and duration are addressed. Impact duration is described as temporary, short-term, or long-term. Impact intensity is characterized as negligible, minor, moderate, or major depending on the degree of change, area affected, and data potential of the resource. Criteria for intensity characterization is as follows:

- **Negligible**– Impact is barely perceptible and not measurable; confined to small areas or a single contributing element of a site with low data potential.
- **Minor** – Impact is perceptible and measurable; remains localized or confined to a single contributing element of a site with low to moderate data potential.
- **Moderate**– Impact is clearly detectable; generally involves a single or small group of contributing elements of a site with moderate to high data potential.
- **Major** – Impact results in substantial and highly noticeable change, involves a large group of contributing elements and/or significant site(s) with high to exceptional data potential.

Cumulative impacts to paleontological resources resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Mitigation measures for impacts to non-renewable paleontologic resources are directed at recovering the scientific data and educational values that have been recognized as constituting the intrinsic properties that make these resources important. The controlled recovery of discovered paleontological resources, their preparation, and subsequent curation in a regional repository such as the Los Angeles County Museum of Paleontology, constitutes the recovery of the scientific values represented by those fossils. The Society of Vertebrate Paleontology (Reynolds 1995) and most land management agencies consider scientific recovery to adequately mitigate impacts to paleontological resources in most circumstances.

Qualified paleontologic monitoring would be employed to determine whether excavations or similar activities are, or are not, impacting paleontologic resources. Recovery of discovered fossils in a scientifically controlled fashion, that is, excavation with detailed notes to assure that their stratigraphic context is recorded and that the fossils are treated in such a way as to assure their physical integrity, constitutes the recovery of their potential scientific data and educational values. In all cases it is assumed that recovery would be followed by laboratory preparation of the fossils and curation in a facility where they would remain accessible to scientists and educators.

CULTURAL RESOURCES

Summary of Laws, Regulations, and Policies

All federal actions affecting cultural resources are subject to the provisions of a variety of acts and regulations. The most important of these include the National Historic Preservation Act (NHPA) of 1966, as amended; the NEPA; the Native American

Graves Protection and Repatriation Act; the American Indian Religious Freedom Act; and the Advisory Council on Historic Preservation's implementing regulations *Protection of Historic Properties* (36 CFR 800), *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (FR 48:44716-40), and *Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act* (FR 53:4727-46).

The GMP process began in 1997 before the Advisory Council on Historic Preservation issued its new regulations on the protection of historic properties. Federal agencies are required to treat all properties over 50 years of age that have not yet been evaluated for National Register eligibility as if they were eligible.

National Park Service Management Policies indicate that cultural resources are to be preserved and appreciation of the resources should be fostered through appropriate programs of research, treatment, protection, and interpretation. Other applicable legislation and regulations and specific management procedures are detailed in *Cultural Resources Management Guidelines* (DO-28, 1998).

Section 106 of the NHPA requires a federal agency to take into account the effects of its undertakings on properties included in, or eligible for inclusion in, the National Register of Historic Places. This also applies to properties not formally determined eligible, but which meet eligibility criteria. The Section 106 process requires the identification of resources that would be affected by a federal proposal, their evaluation under National Register criteria, an assessment of proposed impacts on those resources, and consideration of ways to avoid, reduce, or mitigate adverse impacts. Section 110 of the act requires that federal agencies establish a program to identify,



evaluate, and nominate properties to the National Register. It also requires federal agencies to act as necessary to minimize harm to historic properties adversely affected by a federal proposal, and gives the Advisory Council on Historic Preservation (ACHP) a chance to comment.

Methodologies for Analyzing Impacts

Assessment of impacts to cultural resources follows a four-step process outlined in the Advisory Council's revised regulations: (1) identifying the area of potential effect (APE) of the proposed action; (2) comparing that location with the location of resources listed in or eligible for listing in the National Register of Historic Places; (3) identifying the extent and type of impact of the proposed action on National Register properties; and (4) assessing these effects according to procedures established in the Advisory Council's regulations, in order to avoid, reduce, or mitigate adverse effects.

Under regulations of the Advisory Council on Historic Preservation (36 CFR 800) addressing the criteria of effect and adverse effect, undertakings proposed under the alternatives described above have the potential to adversely affect historic properties. Ethnographic resources could be disturbed or destroyed by construction occurring in traditional plant gathering areas, former village sites, and/or places holding special sacred and spiritual significance to American Indians. Historic sites, structures, districts, and cultural landscapes could be adversely affected by undertakings entailing substantial alteration or removal, or the introduction of modern non-contributing development within or in proximity to historic districts and sensitive landscape areas. To mitigate adverse effects, the recreation area would consult with SHPO, ACHP, tribes and interested individuals and groups. Mitigation might include

HABS/HAER documentation, salvage historic materials, include cooperative agreement provisions for traditional plant gathering, or other suitable mitigation.

Many archeological resources having varied potential to yield prehistoric and historic information could be damaged by ground-disturbing activities. To avoid adverse effects to archeological resources, the recreation area would carry out data recovery operations to retrieve important information.

Rehabilitation and adaptive use of historic buildings, restoration of vegetation contributing to historic settings and the cultural landscape, and removal of non-contributing structures and landscape elements would have no adverse effect on historic properties. Rehabilitation would be carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

For projects lacking sufficient cultural resource data or design information to adequately assess effects, the recreation area would carry out inventories, evaluate identified resources for National Register significance, and recommend avoidance or appropriate treatment or standard mitigating measures prior to construction disturbances.

Cultural resource impact analysis in this document is described in terminology consistent with the regulations of the Council on Environmental Quality (CEQ).

It is intended, however, to comply with requirements of both NEPA and Section 106 of the NHPA. CEQ regulations require that impacts of alternatives and their component actions be disclosed. Consistent with CEQ, the analysis of individual actions includes identification and characterization of impacts, including an evaluation of impact duration and intensity. Impact duration is described as temporary, short-term, or long-term. Intensity of impacts in the cultural resource analysis is defined as:

- **Negligible**– Impact is barely perceptible and not measurable; confined to small areas or a single contributing element of a larger National Register district of archeological site(s) with low data potential.
- **Minor** – Impact is perceptible and measurable; remains localized and confined to a single contributing element of a National Register district or archeological site(s) with low to moderate data potential.
- **Moderate**– Impact is sufficient to cause a change in character-defining feature; generally involves a single or small group of contributing elements or archeological site(s) with moderate to high data potential.
- **Major** – Impact results in a substantial and highly noticeable change in character-defining features; involves a large group of contributing elements and/or individually significant property or archeological site(s) with high to exceptional data potential.

Archeological resources are typically considered eligible for inclusion in the National Register of Historic Places because of the information they have yielded or may be likely to yield. Intensity of impacts to archeological resources relates to the importance of the information they contain and the extent of disturbance and/or degradation.

Ethnographic resources are considered eligible for inclusion in the National Register as traditional cultural properties when they are rooted in a community's history and are important in maintaining the continuing cultural identity of the community and meet criteria for evaluation and integrity. Intensity of impacts to ethnographic resources may relate to access and use of, as well as changes to, traditionally important places.

The CEQ, moreover, calls for a discussion of the “appropriateness” of mitigation, and the National Park Service’s *National Environmental Policy Act Guideline*

(NPS-12) requires an analysis of the “effect” of mitigation. The reduction in intensity resulting from mitigation is an estimate of the effectiveness of mitigation under NEPA. It does not suggest that the level of effect as comprehended by Section 106 is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effect remains adverse.

The cultural resources portion of this environmental consequences section includes an analysis, conclusion, and summary. The analysis section provides a detailed review of impacts that would result from implementation of the actions comprising each alternative. The conclusion section summarized the results of the analysis. The summary is intended to meet requirements of Section 106 and is an assessment of the effect of the undertaking (implementation of the alternative) on historic properties. The summary employs Section 106 terminology and is based on the criterion of effect and criteria of adverse effect found in the council’s implementing regulations.

In 1995, the NPS entered into a general agreement with the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Office (SHPO) to cover the treatment of historic properties on NPS-administered lands. Both the California SHPO and the ACHP were invited to participate in the planning process of this project, as stipulated by the October 1995 general agreement. The general agreement provides for a number of categorical exclusions for actions that are unlikely to have an adverse effect on cultural resources. The NPS can implement these actions without further review. The SHPO and the advisory council must review actions not specifically excluded in the general agreement during the planning and design stage, prior to implementation.

Due to historic and social factors, contemporary Native American families, organizations, and groups of Chumash and Gabrielino/Tonga people with clear affiliation to the Santa Monica Mountain area have not yet achieved formal recognition as Tribes by the Federal Government. Therefore, recent directives from Congress and the Executive Branch about “government-to-government” relationship between Tribal and agency officials cannot be fully met with the exception of the Santa Inez Band of Mission Indians whose members have family origins elsewhere within the Chumash native territory. However, National Park Service officials at SMMNRA will continue to conduct discussions, mutual visits, and dialogs in the spirit of the “government-to-government” directives with dignity, due respect for leaders’ responsibilities toward their communities, and clarity in written and oral communications.

The collections of the SMMNRA are managed in accordance with the NPS Management Policies, DO-28 Cultural Resource Management Guidelines, and requirements of the Native American Graves Protection and Repatriation Act (1990).

“Direct effects” to cultural resources could be a result of both natural processes and human activities. Activities like road and trail construction, facility development, recreation site construction, and other developments directly affect cultural resources. An “indirect effect” of these activities would be to improve visitor access to the national recreation area, thereby increasing the opportunity for site exposure, vandalism, and theft. The condition of cultural resources, therefore, would be a result of natural forces, management activities, and the interaction of the two.

Cumulative impacts to cultural resources resulting from the effects of other plans and projects combined with the impacts

of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

VISITOR EXPERIENCE

The SMMNRA is a unique urban park in that its boundaries enclose a contiguous matrix of public open space interspersed with private development. Visitors can stand on a ridge or in a valley in the SMMNRA without sensing the close proximity of highly developed urban landscapes. The western portion of the SMMNRA is the most removed from the urban influence and the least developed. Although the eastern portion of the recreation area is more developed with over 110,000 people living within the park boundary, more than 90 percent of the land in that area remains undeveloped.

The visitor experience at the SMMNRA could encompass any experience that happens while visitors pass through the recreation area. Every local resident, commuter or visiting tourist driving through the recreation area could be touched by what they learn, feel, and perceive of their Santa Monica Mountains experience. For many people, simply enjoying the unobstructed expanses of mountains and ocean provides a quality scenic experience – an experience increasingly uncommon in the highly developed Los Angeles area.

As the primary purpose of the recreation area is to preserve the natural and cultural resources of the area while providing for the recreational and educational needs of the visiting public, any proposed action that may have direct, indirect, temporary, short-term, or long-term impacts on visitor experience must be examined and/or mitigated. Direct impacts are those effects that are an immediate result of the proposed action.

For example, boat tours directly impact visitor experience by providing a new opportunity within the SMMNRA. An indirect effect occurs as a consequence related to effects of the proposed action, such as increased traffic within the SMMNRA from increased visitor use with development of new facilities. Impacts may be temporary, short-term, or long-term.

The intensity, or severity of impacts are described as negligible, minor, moderate, or major. The following criteria were used to characterize impact intensities for visitor experience:

- **Negligible**— Effects are not detectable to the visitor and therefore are not expected to have an overall effect on the visitor experience.
- **Minor** – Effects would be slightly detectable, though are not expected to have an overall effect on the visitor experience.
- **Moderate**— Impacts are clearly detectable to the visitor and would have a substantial effect on the visitor experience.
- **Major** – Impacts would have a substantial, highly noticeable influence on the visitor experience and could permanently alter access to, and availability of, various aspects of the visitor experience.

Cumulative impacts to visitor experience resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

To ensure that visitation does not impair resources or compromise visitor experience, the NPS would comply with the National Parks and Recreation Act of 1978 (Public Law 95-625). If and/or when it becomes apparent that visitor over-use is degrading resources in the SMMNRA, steps would

be implemented to stop and reverse such degradation. At such time, in accordance with public law and supporting environmental data, it may be necessary to place limits on visitor numbers. Considering the extensive size and varied opportunities afforded by the SMMNRA, it seems likely that any such limits, if necessary, could be applied locally within specific zones to meet resource management objectives. Specific mitigation measures for adverse impacts to visitor experience are described in the visitor experience impacts and mitigation discussion.

LAND USE AND SOCIOECONOMIC ENVIRONMENT

Land Use

All lands within the SMMNRA boundaries that are not owned by state or federal agencies are subject to local land use permitting by cities and counties. Because the management areas associated with each alternative assume certain types and intensities of land uses, potential impacts related to local land use designation and planning are evaluated. Designated land uses that occur within the SMMNRA and boundary study areas are evaluated with respect to consistency with the different alternatives. Local land use designations outside of the SMMNRA and boundary study areas would not be expected to be affected by the proposed alternatives.

The designation of management areas within the SMMNRA might influence, to some extent, the decisions that cities and counties make regarding development projects. The designation of management areas based on use intensity may result in inconsistencies with existing land uses and land use designations within city or county jurisdictions. These inconsistencies are considered land use impacts because they

could influence the jurisdictions' development patterns to minimize development of incompatible usage types and intensities. The key determining factors differentiating one alternative from another is the extent and intensity of potential recreation area development and public access, and the associated potential alteration of the land under each scenario. The land use analysis assesses the consistency of each of the alternatives, as defined in Table 21 below, with the locally designated land uses. For the purpose of this analysis, detailed land use designations for each of the jurisdictions were consolidated into the categories of commercial, industrial, open space, residential, and agricultural. The inconsistencies are then classified based on the degree of incompatibility of the different uses. In addition, the jurisdictions that would be affected by such inconsistencies are identified under each alternative management strategy to illustrate the localized effects of potential land use inconsistencies. The potential impacts associated with each alternative are characterized using a scale of negligible, minimal, moderate, or major impacts, as follows.

- **Negligible**– Impacts would occur if effects were not detectable and would have no discernible effect on land use patterns or land use compatibility.

- **Minimal** – Impacts would result if effects were slightly detectable, but would not be expected to have an overall effect on land use patterns or land use compatibility.
- **Moderate**– Impacts would occur if impacts were clearly detectable and could have an appreciable effect on land use patterns and result in land use incompatibility.
- **Major** – Impacts would occur if effects would have a substantial highly noticeable land use incompatibility or would result in substantial changes to land use patterns.

Table 21 identifies the consistency of each of the prescribed land use management areas with the different designated land uses proposed within each jurisdiction, as illustrated in Figure 14. The land use analysis is based on these consistency findings, and is discussed in detail under each alternative.

Population, Housing and Employment

There are no environmental permits related to this discipline.

The Southern California Association of Governments' socioeconomic projections were used to prepare the sections on existing conditions and projected growth in the region. The SCAG projections, presented in five-year increments, were formulated based on a participatory and iterative process involving all local jurisdictions with land use

Table 21

CONSISTENCY OF NPS PRESCRIBED MANAGEMENT AREAS WITH LOCALLY DESIGNATED LAND USES					
NPS Management Zone	DESIGNATED LAND USE				
	Commercial	Industrial	Open Space	Residential	Agriculture
Low Intensity	Inconsistent	Inconsistent	Consistent	Inconsistent	Inconsistent
Moderate Intensity	Inconsistent	Inconsistent	Consistent	Inconsistent	Inconsistent
High Intensity	Inconsistent	Inconsistent	Inconsistent	Inconsistent	Consistent

planning and development permit authority within the SCAG region. The population and housing projections consider the extent of land designated as open space by local jurisdictions due to physical, political and ecological constraints. None of the project alternatives have features that would result in changes to population and housing and therefore no impact intensities are characterized.

Employment impact intensity is characterized using a scale of negligible, minimal, moderate, or major as follows.

- **Negligible**– Impacts would occur if effects were not detectable and would have no discernible effect on the local work force.
- **Minimal** – Impacts would result if effects were slightly detectable, but would not be expected to have an overall effect on the local work force.
- **Moderate**– Impacts would occur if impacts were clearly detectable and could have an appreciable effect on the local work force.
- **Major** – Impacts would occur if effects would be highly noticeable and would result in substantial changes to the local work force.

Impacts to employment would be considered temporary for changes to the work force lasting up to one year, short-term for durations from one to three years, and long-term for durations greater than three years. Cumulative impacts to employment resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Transportation

Early in the planning process the transportation consultant, Robert Peccia & Associates (RPA), consulted with

transportation planning representatives of the California Department of Transportation (CALTRANS), the Southern California Association of Governments (SCAG), Los Angeles County, Ventura County and the Santa Monica Mountains National Recreational Area.

Potential impacts of each alternative were estimated using existing and projected traffic volume data obtained from the official regional traffic projection model developed by SCAG. The model assumes that current methods of travel, predominately private automobile use, would continue. The model anticipates only minor shifts toward mass transit or other modes of transportation based on planned transit improvement projects, programs that encourage increased intermodal travel and the use of “intelligent transportation systems” to better manage traffic flows and reduce air quality impacts. The SCAG model takes into consideration all planned land developments and estimates the most likely amount and type of development that would occur within the greater Los Angeles area in the foreseeable future. This regional transportation model is considered to be the best source for future traffic projections within the study area.

Existing traffic volumes were obtained from SCAG. These traffic counts are collected by the various transportation authorities within the study area and compiled by SCAG. Traffic volumes for the year 1998 were used to reflect the existing conditions. Future year projections were obtained from the SCAG regional traffic model. Data for the year 2015 was used for the planning year horizon analysis.

RPA conducted field observations of the traffic operation on all of the roads and intersections within the study area. Turning movement counts were conducted at those intersections where traffic volume changes were anticipated based on a review of the alternatives being considered in the EIS.

These turning movement counts were used to analyze the current and future effectiveness of these intersections.

A level of service (LOS) evaluation was conducted according to the procedures outlined in the *Transportation Research Board's Highway Capacity Manual (HCM) - Special Report 209* and the *Highway Capacity Software (HCS)* for all the major roadway sections and intersections using the year 1998 volumes and 2015 traffic projections.

Traffic volume data presented in the EIS estimate current and projected future traffic volumes on specific segments of the local road system. The impacts are described in general terms in the following paragraphs. Results are also presented as potential "levels of service" (LOS) along different road segments. Level of service is a widely used system of describing traffic and driving characteristics at different intensities of traffic flow and congestion. These characteristics are described in Table 22 below.

A similar level of service is applied to the operation of intersections. Several intersections were analyzed to determine the extent of any possible traffic impacts resulting from the actions included in an alternative. The analyses considered potential traffic volume changes and possible changes in the turning movement patterns at each intersection examined. The level of service grading system described above for corridors is similar for intersections. A rating of LOS A is an indication of free flow traffic conditions with minimal intersection delay. Rating of LOS B and C indicate increasing amounts of traffic congestion and intersection delay but are still considered to be acceptable levels of operation. LOS D is an indication of less than desirable delays although the intersection continues to operate with moderate amounts of traffic congestion. LOS E is an indication of operational failure. At LOS E the intersection operation would result in long vehicle queues, major traffic congestion and significant traffic

Table 22

LEVEL OF SERVICE CHARACTERISTICS OF URBAN AND SUBURBAN ARTERIALS		
Level of Service*	Descriptor	Characteristics*
A	Light Traffic	Average travel speed of about 90 percent of free flow speed. Stopped delay at signalized intersections is minimal.
B	Moderate Traffic	Average travel speeds drop due to intersection delay and inter-vehicle conflicts, but remain at 70 percent of free flow speed. Delay is not unreasonable.
C	Substantial Traffic	Stable operations. Longer queues at signals result in average travel speeds of about 50 percent of free flow speeds. Motorists experience appreciable tension.
D	Heavy Traffic	Approaching unstable flow. Average travel speeds down to 40 percent of free flow speed. Delays at intersections may become extensive.
E	Very Heavy Traffic	Unstable flow. Average travel speeds 33 percent of free flow speed. Continuous backup on approaches to intersections.
F	Extremely Heavy Traffic	Forced flow; near gridlock conditions. Average travel speed between 25 and 33 percent of free flow speed. Vehicular backups and long delays, particularly at signalized intersections.

* Source: American Association of State Highway and Transportation Officials 1990

delays. LOS F is a rating that indicates a fully saturated condition and is often viewed as “grid lock.”

Traffic impacts caused by the various alternatives are defined for this analysis as the differences between future traffic conditions predicted without changing existing management and future traffic conditions predicted to result from the direction contained in a particular alternative. A change of one level of service is characterized in this analysis as noticeable (e.g., LOS C to D). A change of two levels of service is characterized as considerable (e.g., LOS B to D). A change of three levels of service or more is characterized as major (e.g., Level B to E).

Potential impacts of each alternative were also estimated using existing and projected traffic volume data obtained from the official regional traffic projection model developed by SCAG. This information was used to characterize impact intensity as described below:

- **Negligible**— Effects that are not detectable and would have no discernible effect on traffic flow and/or traffic safety conditions.
- **Minimal**— Effects that would be slightly detectable but not expected to have an overall effect on traffic flow and/or traffic safety conditions.
- **Moderate**— Impacts are clearly detectable and could have an appreciable effect on traffic flow and/or traffic safety conditions.
- **Major**— Impacts would have a substantial, highly noticeable influence on traffic flow and/or traffic safety conditions.

Project effects on transportation may be singularly insignificant, but, when considered with other projects in the area, could result in exceeding capacity. Cumulative impacts to transportation resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are

described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Public Services and Utilities

There are no environmental permits related to this discipline.

In assessing the environmental consequences of the five management alternatives on public services and utilities, direct and indirect impacts were considered. Direct effects would include the need to improve, modify or construct additional facilities or hire additional personnel to service recreation area-related activities. Indirect effects would include effects that would result from the alternatives that would result in exceeding the regional capacity of a service or utility. For example, additional wastewater produced by a project could result in requiring an upgrade at a regional pump station that would in turn require additional electricity.

Public services and utilities providers were contacted to determine if new and modified park facilities would require additional public facilities or personnel, or would result in exceeding the regional capacity of a service or utility. This information was used to characterize impact intensity as described below:

- **Negligible**— Effects that are not detectable and would have no discernible effect on public services and utilities.
- **Minimal**— Effects that would be slightly detectable but not expected to have an overall effect on public services and utilities.
- **Moderate**— Impacts are clearly detectable and could have an appreciable effect on public services and utilities.
- **Major**— Impacts would have a substantial, highly noticeable influence on public services and utilities.

Project effects on a service or utility may be singularly insignificant, but, when considered with other projects in the area, could result in exceeding capacity. Cumulative impacts to public services and utilities resulting from the effects of other plans and projects combined with the impacts of each of the alternatives are described. Details on the analysis of the cumulative impacts are discussed in the “Cumulative Impacts Methodology” section.

Cumulative Impacts Methodology

Cumulative impacts were evaluated for each resource area on a regional or local basis depending upon the nature of the impact. For the purposes of the cumulative impact analysis, each of the jurisdictions encompassed by the SMMNRA were contacted to collect General Plans and identify specific projects within the area. In addition, government agencies and organizations in the region were contacted to identify projects that were not under the authority of the local jurisdictions. Current general plans and current development within the region were considered in each cumulative impacts analysis. These plans are summarized in the “Environmental Consequences” discussion for “land use”. Specific development projects were also considered, as appropriate, for the cumulative impacts assessment for each resource area and are listed in the Appendix under “Specific Development Projects”.

Each resource area discussion addresses the context, intensity, duration, and type of cumulative impacts associated with both the direct impacts of the project alternatives, and impacts identified in the additional plans and projects. The context of the impact refers to its geographic area, which is specifically defined for each issue area, and then more generally described as a local or regional

impact. Intensities of the impacts are then categorized using the same negligible, minor, moderate, and major scale as defined in each resource area section. The duration of the impact identifies whether the impact would be temporary, short term or long term, and the type of impact specifies whether the effect is a beneficial or adverse impact on the resource area.

The proposed SMMNRA GMP/EIS identifies usage intensity zones within the area boundaries. The plan does not incorporate specific plans for the proposed facilities or the implementation of specific actions. To conduct this cumulative impacts analysis, therefore, potential actions that could occur under each of the project alternatives were analyzed compared to the effects of the no action alternative. However, because of the management focus of the GMP/EIS and the conceptual nature of the alternatives, the cumulative impacts assessment remains necessarily qualitative. As specific actions are proposed, detailed cumulative impact assessments would be conducted in future NEPA documentation to identify specific impacts due to each individual project.

No Action Alternative

NATURAL RESOURCES

Soils and Geology

ANALYSIS

► Soils

Proposed facilities development within the no action alternative would have direct impacts on soils and geology. These developments, along with proposed improvements to existing facilities, include the Mugu Lagoon Visitor Education Center, rehabilitation of the Leo Carrillo State Beach

Environmental Consequences
No Action Alternative

campground, completion of the Backbone Trail, an environmental education day camp at Solstice Canyon, and new road developments. Adverse impacts of these activities would include the removal and disturbance of soils through construction activities, such as cut and fill, grading, and paving. Removal of vegetation and the surficial soil mantle by surface disturbing activities would result in increased soil erosion and an increased potential for debris flows. Adverse impacts from construction activities are expected to be short-term and minor or moderate without mitigation. These impacts are considered minor or moderate because construction sites would be small and localized, erosion would be limited to construction areas, and construction activities would be intermittent and temporary in nature. If these impacts occur in areas containing non-erodible soils, the effects would be perceptible, although their presence would not have an overall effect on soil resources in the SMMNRA. If, however, such impacts occur in areas with erodible soils, a noticeable effect on area soil resources could occur and moderate impacts would result.

Increased soil erosion and potential for debris flows could also result from removal and disturbance to soils from fire prevention, fire suppression, search and rescue operations, and trail maintenance activities. Visitor uses, such as camping, could also result in soil erosion. Unplanned fires resulting from visitor use could potentially result in increased soil erosion. These effects are expected to be minor to moderate because they would occur intermittently and temporarily due to emergency fire suppression activities or unexpected fires and would be limited to affected areas. Erosion due to visitor use would also be limited to the immediate area. Such impacts would be minor in areas with non-erodible soils or low intensities

of visitor use because, although perceptible impacts may occur to soil resources due to slight erosion, these impacts would not have an overall effect on soil resources within the SMMNRA. Moderate impacts would be more likely to occur in areas with erodible soils or high visitor use due to the increased soil erosion and the increased potential for noticeable impacts that affect soil resources as a whole within the SMMNRA. Impacts from increased erosion from fuel management, trail maintenance, and increased visitor use throughout the park are expected to be continual and minor to moderate without mitigation.

Erosion control measures such as sediment retention ponds, silt fencing or slope stabilization techniques would be included in all facility development-specific plans and would be implemented for surface disturbing activities, such as construction or trail maintenance. Adverse impacts on soils from management activities, maintenance, and visitor use would be minimized or avoided through careful planning and enforcement. Visitor management and visitor education would be effective in minimizing many potential impacts. Fire clearance zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs, should be effective in reducing the likelihood of visitor-caused fires. These measures are expected to reduce potential impacts on soil resources to minor.

Beneficial effects of the no action alternative include decreased erosion and siltation due to revegetating trails in or near sensitive resources, and restoring some roads to a natural condition, or reconfiguring them to low impact trails. Beneficial impacts are expected to be perceptible but would not substantially change erosion patterns in the region because of the localized and temporary nature of erosion from trails and roads in the SMMNRA. Beneficial effects resulting from redesigning Leo Carrillo State



Beach campground would include reduction of streambank erosion and protection of top soil in riparian areas.

► **Geologic Hazards**

Unmitigated geologic hazards could impose potentially major long-term adverse impacts on public health and property after facilities development. The principal hazards within the SMMNRA are ground shaking, landslides, debris flows, and ground failures resulting from liquefaction. These impacts would be considered major because there would be a potential for substantial human safety risk and property loss.

The primary mitigation for geologic hazards relative to proposed facilities development would be to avoid geologic hazard zones through careful siting of facilities and minimizing hazard impacts through careful design and construction practices. All grading and construction plans would be submitted to qualified technical staff within the administering agencies for geologic and geotechnical review prior to approval. A qualified professional would conduct geotechnical and geologic hazard investigations prior to project implementation, with a focus on projects in areas of concern. Such areas include projects involving hillside terrain, proximity to active or potentially active faults, and areas of possible liquefaction. New facilities would be sited to avoid geologic hazard zones. New facilities and the modification of existing facilities would be designed and constructed in compliance with all applicable state and federal building code standards. The avoidance of geologic hazard zones would reduce impacts to a minor level.

CUMULATIVE IMPACTS

Proposed developments within the SMMNRA and surrounding areas within the SMMZ would result in soil erosion and increased debris flows from disturbance or removal

of soil during construction. Review of available environmental analysis documents for projects such as the Las Posas Basin Aquifer Storage and Recovery Project, Getty Villa *Master Plan*, and Calabasas Landfill, identified cumulative impacts to soils that were generally minor following mitigation. Adverse impacts to soil resources from the no action alternative would also be minor after mitigation, and are not expected to contribute substantially to cumulative impacts, which would remain minor.

Cumulative impacts to soils may increase as densities of development increases within areas designated for future residential and commercial use. These impacts would be reviewed on a watershed basis in future NEPA documentation when facilities included in the no action alternative are funded for site identification/development, design and construction.

Facilities development under the no action alternative, and other development projects such as Ahmanson Ranch, New Millenium Homes, Mountain Gate, and Malibu Terrace, would result in increased exposure to geologic hazards. These impacts are localized and would not contribute to cumulative impacts.

CONCLUSIONS

Facilities development without mitigation could result in localized and short-term moderate adverse impacts on soil erosion. Adverse on-going impacts on soils could also result from fuel management, fire suppression, search and rescue operations, and trail maintenance. Visitor uses and unplanned fires could also result in long-term soil erosion. Geologic hazards could impose adverse impacts on public health and property as a result of facilities development. Without mitigation, these impacts could be major and long-term. Following mitigation, impacts with respect to geologic hazards would be reduced to minor. Soil resources

and exposure to geologic hazards on privately held land would largely depend upon local enforcement of land use and building permits by other local agencies.

Water Resources

ANALYSIS

The proposed facilities (including the visitor center and minor new road developments) for the no action alternative could adversely affect the water quality of water resources within the SMMNRA. Impacts could include an increase in the runoff volumes and rates from these areas, which could potentially cause streambed and bank erosion, habitat scour, and benthic smothering from the increased flows. In addition, runoff from these areas could contain pollutants such as hydrocarbons and heavy metals from vehicles that are common in road runoff. These pollutants could cause short- and long-term impacts on the health of the aquatic life in streams and rivers. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas.

Direct short-term minor impacts could occur during the construction phase of the proposed facilities. Clearing vegetation during construction and grading activities leaves soils exposed to erosion during rainfall, and these could impact the stream turbidity and suspended sediment levels which could affect light penetration and visibility in the streams. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas. Accidental spills of

fuel or other automotive fluids could occur during the servicing of construction equipment. Increased use of unsealed tracks and roads may also result in erosion risks. Impacts from use of unsealed tracks, roads, and other activities associated with increased visitor use and trail management are expected to be moderate. Septic systems that are not properly located, designed, and constructed could also cause moderate impacts to surface or groundwater. These impacts would be moderate because fuel or sewage spills could potentially affect the quality of waterways and water bodies within the SMMNRA. They would occur only intermittently and would be temporary, however, and would be limited to the area surrounding construction sites or septic tanks.

Mitigation of these impacts would be applied in two phases, during construction, and longer term, more permanent measures. Mitigation during construction would be achieved through developing a construction stormwater management plan, which would emphasize careful planning of activities to minimize soil disturbance, and recommend on-site temporary water treatments, such as silt fences and sedimentation ponds. These measures retain pollutants on-site and reduce the downstream impacts of construction. The plan would be prepared for all construction activities affecting one or more acres and would include best management practices such as temporary on-site water treatments, such as silt fences and sedimentation ponds. Fueling and servicing of construction equipment would not occur within 100 feet of a waterbody or drainage area unless adequate spill control/containment is provided.

Longer-term mitigation of potential impacts for the proposed facilities would include some treatment of the runoff from developed areas to reduce pollutants such as toxicants from vehicles or pathogens from restroom facilities from reaching the



waterways. A qualified engineer would conduct a soils and engineering evaluation within the administering agencies to support the location and design of all septic system repairs, upgrades, and installations. Permanent mitigation measures would be planned and designed as part of the detailed design of the proposed facilities.

Most adverse impacts on the water resources of the area would be from the high intensity use areas within the recreation area. These areas would contribute more water and pollutants to the natural system. It would be important to employ sufficient mitigation measures to minimize their delivery. Adverse impacts to water resources are expected to be minor after mitigation.

CUMULATIVE IMPACTS

Proposed developments within the SMMNRA and surrounding areas within the SMMZ would result in increased run-off and impacts to water quality. Review of available environmental analysis documents for specific projects identified cumulative impacts to water resources. The Ahmanson Ranch EIR reported moderate cumulative impacts involving degradation of Malibu Creek from runoff. According to the EIR, retrofitting existing storm water systems in surrounding jurisdictions would not be feasible, and impacts would remain significant. The no action alternative does not involve facilities development in the Malibu Creek watershed; however, impacts to water resources were identified throughout the SMMNRA from erosion due to use of unsealed tracks and roads. Though impacts would be minor after mitigation and would not contribute substantially to cumulative impacts, cumulative impacts would remain moderate in the Malibu Creek watershed.

Cumulative impacts to water resources may increase in other watersheds in the future as densities of development increase

within areas designated for future residential and commercial use. These impacts would be reviewed on a watershed basis in future NEPA documentation when facilities are funded for site identification/development, design, and construction.

CONCLUSIONS

The no action alternative would have a minor to moderate adverse impact on water resources from increased runoff, soil erosion, and pollutants. All impacts would be reduced to minor levels, provided that the mitigation measures discussed in the analysis of impacts are employed.

Flood Plains

ANALYSIS

The major drainages/flood plains in the SMMNRA, as described in the Affected Environment chapter, include Calleguas and Malibu Creeks as well as the Arroyo Sequit stream. The no action alternative proposes the Leo Carrillo State Beach Visitor Center facility and use in the vicinity of the Arroyo Sequit stream that may include modified or new structures in the flood plains.

The specific location for the Leo Carrillo State Beach Visitor Center has not been determined. Therefore, it is not possible to identify the intensity or severity of the impacts at this time. However, locating structures within the 100-year flood plain would result in long-term moderate adverse impacts. For example, the addition of structures or any other visitor facility within a flood plain would encourage and increase access to the flood plain, thereby increasing the potential for loss of life or property during potential flooding. These impacts could be reduced through mitigation. During siting of structures and use areas for proposed facilities in the vicinity of a flood plain, an engineering evaluation would

be conducted by a qualified engineer to identify the boundaries of the 100-year flood plain. Unless infeasible, structures and use areas would be located outside the flood plain boundaries. Facilities and trails within the 100-year flood plain would be closed 24 hours prior to a predicted 50-year, 24-hour storm event. NPS would use various warning systems and would patrol use areas within the flood plain prior to and during storms to assure that these areas are not occupied. For example, Ventura County Flood Control District (VCFCD) has operated a flood warning system since February 1979. The system is called "ALERT", an acronym for Automated Local Evaluation in Real Time, which was developed by the National Weather Service. In addition, signage would be provided at the flood plain boundary on trails and access roads alerting park users that they are about to enter an area prone to flooding during wet weather conditions.

CUMULATIVE IMPACTS

Projects evaluated for the cumulative impacts analysis do not identify development that would alter existing flood plains and no cumulative impacts associated with these projects were identified. The no action alternative would be the sole contributor to cumulative impacts to flood plains.

CONCLUSIONS

The no action alternative could result in potentially moderate long-term impacts related to the Leo Carrillo State Beach Visitor Center. The actual intensity of adverse impacts cannot be determined until the specific facility locations are determined. The designation of high intensity use that encompasses the Arroyo Sequit stream flood plain could also result in adverse impacts. Mitigation measures could reduce the adverse impacts related to flood plains to minor.

Biological Resources and Wetlands

ANALYSIS

Vegetation

Facilities development would have direct impacts on vegetation. These developments, along with proposed improvements to existing facilities, include Mugu Lagoon Visitor Center, the rehabilitation of Leo Carrillo State Beach campground, completion of the Backbone Trail, an environmental education day camp at Solstice Canyon, and new road developments. The specific biological resources affected by the development of projects within this alternative would be presented in separate NEPA documentation prepared for each project, although some general consequences may include the impacts discussed in the following paragraphs and sections.

Minor adverse impacts of these activities could include the removal and disturbance of natural vegetation through construction activities, such as cut and fill, grading, and paving. Although development of new facilities would occur within areas with vegetation that have already been disturbed, some areas may support fringes of chaparral or coastal sage scrub vegetation that may need to be removed during grading of the sites. These impacts would remain minor because such removal of natural vegetation would be localized and confined to areas where constraints prohibit other options or another placement of the facility. If construction areas should potentially support sensitive plant or wildlife species, appropriate consultations with the USFWS and CDFG would be conducted during the planning stages of the projects, and if found *a propos*, agreed upon mitigation would be implemented as conditions of the projects.

Removal of vegetation by surface-disturbing activities could also result in increased soil erosion (see soils and geology)

that can, in turn, adversely affect off-site vegetation and increase siltation in downstream watercourses. Such siltation could inhibit or prevent the transport of oxygen to the roots of riparian vegetation, such as willow trees in stream bottoms, leading to a decrease in the health or death of the riparian systems. Such an effect, if unmitigated, could be negligible to major, depending upon the amount of vegetation affected, slope of the site, and nature of the downstream riparian community. Negligible impacts would occur if effects remain localized or affect only non-sensitive species. These impacts would increase to major levels if erosion affects a large number of highly sensitive species, or if a large extent of species present is affected. Because development of new facilities would occur in areas that have already been disturbed, the effect on the site itself could be negligible, whereas the effect on downstream riparian vegetation – including the elimination of the riparian vegetation – could be a major impact. Disturbance or removal of vegetation on slopes also increases the potential for debris flows, which could dramatically remove or alter plant communities, especially those within downstream watercourses.

The effects of newly created edges between habitats can be expected adjacent to developed facilities. Edge effects are changes within a “zone of influence” between habitats that may vary in width, depending upon what is measured. The intensities of edge effects frequently are dependent upon the sizes and shapes of the disturbed areas and the lengths of the edges between the habitats. These effects could include changes in abiotic factors such as temperature, relative humidity, penetration of light, and exposure to wind, each of which could affect the presence or distribution of species within the area. Biotic changes due to edge effects could include, among others,

elevated plant mortality, depressed migratory bird usage and breeding near habitat margins, or increases in insect species diversity (Soule 1986, Meffe and Carroll 1997). For projects within the SMMNRA, the size and extent of such edge effects, if any, would be analyzed in additional documentation prepared for each project. Effects would likely be negligible to minor in intensity because siting of the projects would be limited to areas that have been previously disturbed, minimizing the potential for impacting large areas of critical or sensitive species.

Adverse impacts on vegetation could also result from fuel management, fire suppression, search and rescue operations, and trail maintenance. For example, Los Angeles County regulations require a 200-foot fire suppression zone around structures built within chaparral vegetation. Natural vegetation is removed and replaced with fire-retardant landscape species from an approved plant palette. The intensity of this impact depends upon the size of the development area and its shape. These fire suppression zones would be permanent. These activities could also have adverse effects on vegetation similar to those of facilities development and road construction, but because of their reactive nature, frequently could not be readily attuned to sensitive biological resources. Examples of impacts would be the removal (burning) of vegetation in backfire areas, or removal of vegetation in areas where temporary flow/erosion control structures would incidentally displace riparian vegetation during storms. During these emergency activities, the loss of habitat or individuals of sensitive plant and animal species may be unavoidable. These emergency actions could create negligible to major impacts, depending on the extent of sensitive species that would need to be replaced, as described above. However, during routine planning

for fuel management and trail maintenance activities, adverse effects on sensitive vegetation would be avoided or mitigated to minor through avoidance or revegetation.

Visitor uses, such as camping, could also result in soil erosion and disturbance or removal of vegetation. For example, campers may dig tent trenches, create ad hoc paths around campsites, or cut wood or brush around campsites, even if these activities are discouraged or prohibited. Minor to negligible changes in vegetation around campsites could be attributed to these activities since they may sometimes result in perceptible changes to areas, but remain localized. Unplanned fires resulting from visitor use have the potential to alter plant communities in extended areas around the camping area. The effects of such fires could inadvertently remove (burn) vegetation supporting sensitive plant and animal species. The intensity of this unplanned impact could range from minor to major, depending upon the location and extent of such fires, the season in which they occur, and the fire history of the vegetation. Major impacts may occur if extensive fires affect sensitive species that are not fire resistant. Minor impacts could result, however, if the habitat ecology is resistant to fire, or if only localized areas of non-sensitive species are affected.

Beneficial effects of the no action alternative include plans to close, reroute and revegetate trails in or near sensitive resources, and to remove or restore some roads to a natural condition, or re-configure them to low impact trails. Beneficial effects would also result from redesigning the Leo Carrillo State Beach campground to relocate campsites and facilities away from riparian resources. Such actions would allow sensitive resources to recover to earlier conditions in these habitats. For example, nesting birds whose breeding activities had been previously disturbed by frequent or

occasional hikers in riparian corridors could increase their breeding successes with fewer interruptions. In addition, large mammals, such as mountain lions and mule deer, which are highly sensitive to human intrusions into their territories, could utilize corridors with more perceived security. These actions enhancing wildlife protection and breeding could affect minor to moderate positive changes to wildlife distributions in specific areas of the SMMNRA, depending on the extent to which species distribution could shift in the region.

The primary mitigation for proposed facilities development would be the careful siting of facilities to avoid undisturbed native vegetation. New development would be sited in previously disturbed areas, which would normally support stands of exotic vegetation, thereby avoiding or minimizing impacts on undisturbed native vegetation. Areas of vegetation that have been previously subjected to ground-disturbing activities frequently support exotic vegetation that has adapted to the changed site conditions. Ground disturbing activities frequently interrupt natural successional processes of vegetation and alter the topography of a site, which often promote the competitive success of exotic plant species over native species. Such disturbances, which often dramatically change the physiognomy (physical arrangement) of vegetation, can alter habitat characteristics so that they are no longer suitable for native wildlife species, but, instead, favor a suite of exotic wildlife species. When not subsequently treated with a revegetation program, and when left to natural processes, such areas of disturbed soil and vegetation frequently require decades to recover – if they ever do – to their more natural habitat conditions. The siting of SMMNRA facilities at previously disturbed sites would place newly developed facilities in areas with the least effects on native biota.

To ensure that all facilities are sited in appropriate areas, all grading and construction plans would be reviewed by a qualified individual prior to submission to the administering agencies for approval. Areas temporarily disturbed during construction would be recontoured and revegetated with appropriate native plant species, and appropriate fuel management zones would be maintained around developed structures. Erosion control measures would be implemented for surface disturbing activities, such as construction or trail maintenance. For example, temporary sediment basins or site fencing could be installed at construction sites to protect downstream riparian vegetation, or (rice) straw bales could be secured to temporarily shore up eroded areas on trail switch backs to provide opportunity for native plants to re-establish themselves. Pre-project surveys would be conducted by a qualified biologist prior to project implementation in the appropriate season to determine presence of listed species, as well as other species of federal or state concern. Projects sited in areas that may support any sensitive species listed in Table 13 would require pre-project surveys, conducted according to standard biological techniques and protocol for the sensitive species. For example, protocol surveys would be conducted between March 15 and July 1 to establish the presence or absence of certain species in habitat areas, particularly those that may potentially support riparian vegetation habitats for populations such as the arroyo southwestern toad (AST). The administering agencies would consult with the USFWS and CDFG during the detailed planning phase of a project, if the AST or any other listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This

would include notification of the CDFG through the subsequent NEPA, FESA Section 7, or CWA Section 404/401 processes. Monitoring by a qualified biologist would be required for surface disturbing activities in, or in close proximity to, sensitive vegetative resources (e.g., wetlands, listed species habitat). Best management practices would be implemented during construction. For example, temporary sedimentation retention basins could be required on some projects if construction would occur during the rainy season, or the servicing of construction vehicles could be prohibited within 100 feet of riparian corridors. Or, construction staging areas would be established and staked to avoid disturbances of native vegetation or the root zones of oak trees. Impacts could be avoided by siting developments in areas of previous disturbance. Such measures would ensure that impacts to biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

Adverse impacts on vegetation from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning and enforcement. Visitor management and visitor education programs, which would be developed and presented in the NEPA documentation for appropriate facility projects, would be effective in minimizing many potential impacts. For example, emphasis within various educational programs could be placed on the importance of hikers remaining on established trails to prevent the trampling of vegetation or the creation of new erosion gullies. Or, educational programs could stress the importance of fire prevention and the effects of unplanned fires on biota, or the importance of maintaining low impact zones within the park for the long-term

preservation of biotic resources. Additional educational efforts, such as trail markers and educational pamphlets, and posting fire hazard signs, would be used to reduce the likelihood of improper trail use, visitor-caused fires, and their resultant impacts. Fire clearance zones would be incorporated into the planning of new facility developments. If vegetation were to be inadvertently lost or disturbed from any visitor-related activity, the area would be rehabilitated or revegetated with species from an appropriate native plant palette using local seed/plant sources and/or would be considered for closure.

The examples of mitigation measures noted above, and others specifically designed for each project, would minimize loss of vegetation in the SMMNRA. Long-term loss of currently vegetated, natural areas would be minor as a result of the no action alternative. The long-term health of vegetation on privately held land would partially depend upon local enforcement of land use and building permits by other local agencies. These agencies include the Los Angeles County Department of Regional Planning, which administers 12 significant ecological areas primarily on private lands within the Santa Monica Mountains, but which are outside the jurisdiction of the SMMNRA.

■ **Wildlife**

Facilities development would have direct, localized impacts on some wildlife species. Any grading or ground-disturbing activity may kill individuals of common or sensitive species, including numerous invertebrates and vertebrates listed in Table 12. Such an effect would be localized, but, in the case of rare, threatened, or endangered wildlife, could have from minor to major impacts on survivability of the species on a local, regional, or global scale. Minor impacts would occur if only a small, localized portion of the sensitive population is affected because

such effects would not substantially alter the ability of the species to survive in the area. These impacts would increase to major intensities, however, as more widespread or higher proportions of the populations were affected, thereby affecting the ability of the species as a whole to thrive in the region.

Removal of habitat, such as vegetation or soil components, could indirectly affect wildlife populations. The intensity of this impact would range from negligible to major depending upon factors such as the amount of habitat removed or disturbed, the location of the habitat and disturbance, the season in which the disturbance occurs, or the methods by which the disturbance is created. The intensity of impacts on the Santa Monica Shieldback Katydid (invertebrate species) listed in Table 12, would likely be very different than on mountain lions because of their general ecological differences and requirements. Placing a trail through a riparian area could result in negligible impacts for katydids and major impacts for mountain lions, since mountain lions depend on riparian areas for cover and water sources, while katydids are much smaller and less affected by human trail activity. In another location, or for another action, the opposite intensity of impacts could occur. For example, beneficial effects of the no action alternative include plans to close, reroute and revegetate trails in or near sensitive resources, and to remove or restore some roads to a natural condition, or re-configure them to low impact trails. In this example, major beneficial effects on mountain lions are feasible because less trail activity surrounding water sources would protect mountain lion access to water and cover in riparian areas. Impacts on katydids are likely to be negligible, however, since they are relatively unaffected by trail activity.

Individual members of small mammals, birds, reptiles, and amphibians may be

temporarily displaced by construction activities. Because many species of vertebrates, such as kangaroo rats and passerine birds, defend established territories, the movement of displaced individuals from construction sites into the adjacent habitats could be disruptive to existing populations around the construction sites. The successful defense of territories is frequently linked with reproductive success in many such species. Thus, the territories of adjacent populations could be adversely affected as displaced wildlife attempt to inhabit off-site areas where other individuals are already established. If a site involves an impact on sensitive species listed in Table 12 (rare, endangered, and threatened animals), the intensity of this impact would range from negligible to major and would depend upon such factors as the amount of habitat removed or disturbed, the location of the habitat and disturbance, the season in which the disturbance occurs, or the methods by which the disturbance is created. Negligible or minor impacts would occur only if a small portion of habitat is affected or if construction / disturbance occurs during non-breeding seasons, and individuals or populations are not noticeably affected. Major impacts could result, however, if a large proportion or critical area of the population is affected or if disturbance occurs during breeding seasons such that the viability of the population is threatened. In addition, major impacts could occur if sensitive or endangered species are impacted, even to a small extent. Although there is minor potential for a local reduction in the habitat available for endangered, threatened, rare or sensitive species of wildlife, if vegetation and wildlife habitats are committed to permanent development, then projects planned by the NPS would be developed in areas that were previously disturbed. This would further reduce the

potential for the impacts of displacement to occur. Consultation during the planning process for any projects with a potential impact on sensitive animal species would be conducted with the USFWS and CDFG with the goal of avoiding, mitigating, or reducing any such impacts to a negligible level.

Construction activity and noise may be disruptive to animal populations in the habitats adjacent to development sites. The activities and noise may bring about changes in the foraging and breeding behavior of sensitive birds listed in Table 12, for example, that are nesting in adjacent vegetation. This may cause a reduction in the breeding success of these sensitive species. The intensity of this impact would depend upon such factors as the amount of habitat disturbed, the location of the habitat and disturbance, the noise levels of construction activities, the durations of the disturbance, the season in which the disturbance occurs, or the methods by which the disturbance is created. In general, such disturbances would be localized around the perimeter of the project site, and therefore of negligible to minor intensity. The intensity could be moderate to major if construction activities occur in critical (e.g., breeding) seasons in areas where a project site is adjacent to habitats, such as some riparian areas, that may support sensitive species.

Visitor uses, such as hiking, horseback riding and mountain biking, could have both direct and indirect adverse effects on all classes of wildlife, especially in areas where sensitive resources are supported. Direct effects include disturbance of soils supporting vegetation, trampling or removal of vegetation, and disturbance of wildlife behaviors and habitats, especially for species that are sensitive to the presence of humans. Indirect effects from visitor use could include, for example, disruption of wildlife activities

because of noise at campgrounds or along trails and wildlife corridors. Of particular concern is wildlife access to water sources. Most large mammalian species depend on access to fresh water streams, springs, or ponds for drinking. These areas, especially when they are in short supply, could also be the focus of foraging predators. When animals are utilizing such drinking areas, they are accordingly more vulnerable to predation, and have a heightened sense of caution. These species include both predator and prey, including mule deer, mountain lion, and intermediate sized predators (e.g., bobcat, coyote, and gray fox). These species are particularly sensitive to human activity in close proximity to water sources and they might avoid water sources as a result of visitor activity. Disturbances of animals by human activities could affect both the success of hunting and the vulnerability of being taken as prey. This is especially critical during the drier seasons of summer and fall. Currently, visitor use is year round. These impacts could range from minor to major, depending on levels of visitor use and proximity to sensitive resources. Minor impacts were expected in low intensity use areas and where disturbance is away from sensitive areas. Major impacts would occur in high intensity use areas where sensitive species are present.

Construction monitoring by a qualified biologist in areas supporting sensitive wildlife would reduce or prevent some impacts. Pre-project surveys would be conducted prior to project implementation in the appropriate season for listed species, as well as other species of federal or state concern (see Table 14). A qualified staff member of the administering agency would review all grading and construction plans prior to approval. The administering agencies would consult with the USFWS and CDFG

during the detailed planning phase of a project, if any listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, FESA Section 7, or CWA Section 404/401 processes. Undisturbed native vegetation would be avoided when new facilities are sited.

Areas temporarily disturbed during construction would be recontoured and revegetated with appropriate native plant species. Appropriate fuel management zones would be maintained around developed structures. Erosion control measures such as sediment retention basins, silt fencing, or slope stabilization techniques, would be considered and implemented for surface disturbing activities, such as construction or trail maintenance. Monitoring by a qualified biologist would be required for surface-disturbing activities in or in close proximity to, sensitive wildlife resources (e.g., listed species habitat). The monitoring activities would ensure that agreements and conditions established during consultations with the resources agencies, along with other biological terms and conditions established during project approvals, are followed during construction. Examples of such conditions include ensuring that construction noise levels are kept below a specific level at established contours away from the construction zone. Or, that machinery and personnel remain within the boundaries of the project site and established staging areas, or that construction does not occur during the breeding season of least Bell's vireo adjacent to a riparian corridor supporting nesting birds. As established during consultations with the resource agencies, and as specified by reviewing

agency policies and local ordinances, monitoring of the site by a qualified biologist during construction would ensure that best management practices would be implemented during construction.

Visitor use management and education would be effective in reducing many indirect impacts on wildlife. For example, routing trails away from sensitive biological habitat areas would reduce noise impacts on, and hiker intrusions into, sensitive habitats. Policy provisions to prevent overnight uses in low intensity use areas would preclude camping in close proximity to wildlife water sources used by nocturnal mammals.

■ Habitat Connectivity

As with vegetation, proposed facilities development would have direct impacts on habitat connectivity. Any loss, disturbance, or degradation of vegetation in habitat linkages and wildlife movement corridors could potentially have an adverse impact on an area's value as wildlife habitat. For example, the placement of facilities along riparian corridors, on hilltop ridgelines, or in other linear landscape features utilized by predators such as mountain lions, or prey, such as deer in their daily or seasonal movements, could cause the animals to alter their movement patterns to avoid humans. Such impacts would vary from minor to major, depending upon factors such as the size of the development, the amount of human activity taking place in the development, and the sensitivity of each species to human presence. Large facilities or high-use trails could lead to major impacts for animals sensitive to human activity, such as deer or mountain lion, while minor impacts could occur if facilities or trails are small and experience low use, or are located in areas without sensitive animals.

Habitat linkages and wildlife movement corridors have been identified in various studies of the region, including constrained

areas where limited opportunity is available for safe wildlife movement across major roadways and developed areas. One major habitat connection of regional importance connects the Santa Susana and San Gabriel Mountains north of SMMNRA to the Santa Monica Mountains through the Simi Hills. Local habitat connections tend to follow canyon bottoms (riparian habitats) and ridgelines (upland linkages), often with interconnections with other such corridors. Large expanses of open space serve the same function for many small species, such as lizards and rodents, but this function is less obvious to human observers because the species are less easily observed and the habitat is much larger in comparison to their size. Loss of habitat connectivity leads to habitat fragmentation and gradual loss of small isolated wildlife populations. Some wildlife species, such as many birds, could utilize archipelago (steppingstone) linkages, but, without safe passage areas, most terrestrial species, such as bobcat, rodents, amphibians, or reptiles, cannot. Thus, the placement of facilities within riparian areas, on ridgelines, or other linkage habitats could interrupt habitat connectivity for larger species, but also for numerous smaller wildlife species. The intensity of corridor impacts generally would be major for the larger species, while only moderate to negligible for smaller species. This difference could be attributed to the increased cover and corridor size required for larger mammals, while smaller species could more easily avoid human activity along a corridor. However, documentation for impact intensities on sensitive species would be addressed in NEPA processes when projects are proposed and planned, and appropriate avoidances and mitigations would be implemented with the goal of reducing potential impacts to minor.

The primary mitigation to offset impacts from new development would be to avoid

sensitive habitats and habitat linkage areas through careful project siting. A qualified biologist in the administering agencies would evaluate all proposed actions for their effects on habitats and on habitat connectivity to avoid or mitigate further habitat fragmentation. New developments would be excluded from existing wildlife corridors, or minimized to the greatest extent practicable, to ensure the continued exchange of genes and individuals between wildlife populations within and adjacent to the SMMNRA. Degraded habitats within conserved linkage areas would be restored. For example, narrow approach areas previously cleared of cover near highway wildlife undercrossings could be widened, revegetated, or otherwise enhanced with appropriate cover. The most effective means of maintaining habitat connectivity is through the maintenance of sufficiently wide (greater than 400 feet) habitat linkages between major blocks of habitat. In some cases, the feasibility of retrofitting wildlife underpasses where primary roads intersect with wildlife movement areas within the recreation area could be considered in the NEPA documentation prepared for projects that might affect habitat linkages within their sphere of influence.

■ **Wetlands**

The no action alternative proposes no new facilities beyond that planned by the 1982 SMMNRA GMP. Where existing facilities require long-term maintenance or enhancement, there is a potential for impacts to wetlands associated with infrastructure repair and improvements (water, sewer, roads, trails) crossing drainages to reach the facilities. Siting of this infrastructure would avoid and minimize impacts to wetland resources wherever practicable. Existing disturbed areas within the drainage reach associated with the facility would be used where

practicable. Opportunities to restore and enhance disturbed wetland resource areas adjacent to upgraded facilities would be identified during the site design process. The 404/401 and 1603 wetlands permitting processes would result in avoidance or full mitigation of wetland impacts. Impacts to wetland resources associated with the no action alternative due to the short-term nature of expected impacts and the possibility of habitat recovery within a relatively short period of time would be mostly associated with linear infrastructure improvements and are considered to be minor to moderate and short-term.

CUMULATIVE IMPACTS

Development of substantial private and local government projects on privately and publicly held lands within the SMMNRA and SMMZ would continue to decrease the amount of available habitat for biological populations within lands held by the National Park Service, California State Parks, and Santa Monica Mountains Conservancy. These private and local government projects, along with those developed by the NPS, CSP, and SMMC, would continue to accumulate adverse effects on biological resources within the SMMNRA boundaries. Review of environmental analysis documents for projects such as Ahmanson Ranch and Las Posas Basin Aquifer Storage identified minor adverse cumulative impacts to biological resources and/or wetlands. Recreational uses of the SMMNRA would continue to disturb some wildlife species. However, implementation of the management plan would have a beneficial effect on regional biological resources. Cumulative impacts in the area would therefore remain minor, with the largest adverse impacts coming from private projects.

To the extent possible, the resource agencies would work to share information with local governments, developers and



landowners to minimize impacts when possible. The administering agencies would help initiate and fully participate as responsible agencies with federal, state, and local agencies, and other interested parties (private landowners and environmental organizations) in a subregional conservation planning process, such as the Natural Communities Conservation Planning (NCCP) program managed by the CDFG.

CONCLUSIONS

Moderate to minor potential impacts on common plant communities and vegetation are expected from proposed facilities development, including the removal and disturbance of vegetation through construction activities, such as cut and fill, grading, and paving. Minor to negligible impacts on sensitive plants species and wetlands would be expected because facilities would be developed in areas that were previously disturbed. Negligible to major indirect effects would include invasion by exotic plant species into newly disturbed areas and the elimination or alteration of some wetlands and riparian vegetation in streambeds. A variety of edge effects, such as noise and lighting disturbances to wildlife and losses of vegetation from foot traffic, could be expected within an interface zone of existing and future facilities having relatively high human usage. Negligible to major adverse impacts on vegetation could also result from fuel management, fire suppression, search and rescue operations, and trail maintenance.

Beneficial effects of the no action alternative include plans to close, reroute and revegetate trails in or near sensitive resources, and to remove or restore some roads to a natural condition, or reconfigure them to low impact trails. This would avoid or reduce the risk and intensity of potential impacts on sensitive species near these installations to a minor level.

Minor to negligible direct impacts on wildlife would be expected from facilities development. Direct effects would generally be localized on wildlife species. Visitor uses, such as hiking, horseback riding, and mountain biking, could have both direct and indirect, adverse effects on wetlands and all classes of wildlife especially if these uses occur in wildlife corridors and linkages. Proposed facilities development could have potentially major direct impacts on habitat connectivity if movement corridors cannot be avoided. Mitigation through revegetation and avoidance would reduce each of these impacts to minor or negligible levels.

Paleontology

ANALYSIS

The no action alternative includes 16 facility developments that are proposed for previously disturbed areas. Nevertheless, construction activities could affect previously undisturbed sediments possessing moderate to high paleontologic sensitivity. Limited disturbance of deposits with moderate to high paleontological potential would result in a perceptible impact that would be considered a moderate adverse impact to paleontologic resources. Grading as part of fuel management and fire suppression could also result in moderate potential impacts. Direct, short-term impacts resulting from these activities would include the disturbance and removal of *in situ* fossils, including restoration efforts when those efforts involve excavation. A long-term adverse impact would be the exposure of previously buried fossiliferous sediments to weathering by trail improvements, such as completion of the Backbone Trail. Increased visitor use would also adversely affect paleontologic resources through unauthorized collection and consequent loss of the scientific and educational potential of those resources. This impact is anticipated to be minor because facilities and high use intensity

areas would be likely to encompass only limited deposits with moderate to high paleontological potential because of their location in previously disturbed areas and the limited public access to such sites within the SMMNRA.

Mitigation of these impacts would include comparing grading and construction plans with geologic maps by a qualified professional during the administering agencies' geological and geotechnical review to determine the paleontologic sensitivity of affected sediments. Facilities would be sited away from known paleontological resource locations. If excavation occurs in sediments that have high to moderate paleontologic sensitivity, monitoring by a qualified paleontologic monitor would occur during excavation. If fossils are discovered, then construction would halt in the immediate vicinity of the find until they were removed in a scientifically controlled fashion by a qualified paleontologist. Recovery of the scientific data potential of the fossils would reduce impacts to a minor level. Additional mitigation measures would include public education implemented by the administering agencies regarding the scientific and educational importance of fossils, and promoting enhanced awareness of enforcement of California State and NPS non-collection policies.

CUMULATIVE IMPACTS

Proposed developments in the SMMNRA and SMMZ may result in disturbance or removal of fossils. Review of environmental analysis documents for projects such as the Calabasas Landfill and Getty Villa *Master Plan* identified minor cumulative impacts to paleontological resources. Impacts to paleontological resources from the no action alternative would also be minor after mitigation, and are not expected to contribute substantially to cumulative impacts, which would remain minor.

CONCLUSIONS

Proposed facility developments could affect previously undisturbed sediments possessing moderate to high paleontologic sensitivity, resulting in moderate adverse impacts to paleontologic resources. Increased visitor use would also adversely affect paleontologic resources through unauthorized collection and consequent loss of the scientific and educational potential of those resources. This impact would be minor. The mitigation measures discussed in the analysis of impacts section would reduce the impacts on paleontological resources to minor.

CULTURAL RESOURCES

ANALYSIS

Management of the SMMNRA would continue under current policies and guidelines in the no action alternative. The increasing levels of visitation that current trends predict would make the recreation area's cultural resources more susceptible to degradation through the physical impacts of casual use. However, the development of stewardship programs could limit the destructive effects of vandalism through increased public involvement and awareness. In addition, continuing enhancement of the interpretive/educational components of the SMMNRA's cultural resource management program, as funding allows, would increase public sensitivity to the importance of the resources, and potentially limit such degradation by instilling a greater understanding and appreciation of the resources, and encouraging avoidance where feasible.

The interpretive/educational outreach of SMMNRA, which includes conducting programs for school children, would be enhanced as funding allows, incorporating more information and values about cultural



resources in the curriculum. This would help build an enlightened constituency that would benefit the recreation area and resource preservation in the future, as well as promote sensitivity regarding respect for traditional Native American Indian and historic lifeways.

The NPS would continue to work with neighboring landowners and jurisdictions to ensure, to the extent practicable, that adjacent land management practices do not impair the SMMNRA's cultural resources, viewsheds, or distant vistas.

► **Archeological Resources**

Archeological resources would be protected from the effects of development and visitor use where possible; however, sites would remain susceptible to natural deterioration, inadvertent damage by human activity, and vandalism in areas further removed from the purview of recreation area staff. Some sites would eventually be lost. Further deterioration or destruction of archeological sites in the recreation area by human activity would result in the loss of resource values associated with the prehistory and history of the region. Such impacts are expected to be negligible, because this alternative would not increase public accessibility to archeological sites in the SMMNRA. With appropriate mitigation, these impacts could be further reduced.

To ensure that adequate consideration and protection are accorded archeological resources, record searches and, where appropriate, archeological surveys conducted by a qualified archeologist would precede all ground disturbing activities on recreation area lands. Archeological and Native American Indian monitoring would occur by a qualified archeologist where ground disturbance is expected in the vicinity of known or suspected cultural resources. If cultural materials were unearthed during construction activities, all work in the

immediate vicinity of the discovery would be halted until the resources could be identified, their significance assessed and any necessary mitigation undertaken. Potential mitigation measures could include avoidance, preservation, or data recovery. If construction impacts upon archeological sites cannot be avoided, the California State Historic Preservation Office, the Advisory Council on Historic Preservation (ACHP) and concerned Native American Indian groups would be consulted by the administering agency in the development of mitigation strategies.

If human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during facilities or trail improvements, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed.

► **Historic Structures**

No direct impacts to the three historic structures within the SMMNRA's boundaries that are listed in the National Register of Historic Places would result from the implementation of the no action alternative. Although visitor use to such structures would be limited, minor impacts resulting from continued visitation of the Adamson House, Loeff's Hippodrome (on Santa Monica Pier), and the Will Rogers House might gradually occur, due to wear-and-tear and routine maintenance activities. These impacts would be considered minor because they are localized and gradual. In this event, rehabilitation would be carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), and would reduce or eliminate these effects.

To appropriately preserve and protect the many historic structures of SMMNRA that are either listed in, or potentially eligible for, listing on the National Register of Historic Places. An historic resource study will be

conducted in 2001 to assess eligible historic structures and landscapes and nominate those that meet National Register criteria. All preservation and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would continue to be conducted in accordance with the National Park Service's *Management Policies* (1988) and *Cultural Resource Management Guidelines* (1996), and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Making historic structures accessible to the physically challenged, to comply with the Architectural Barriers Act of 1968 and the Rehabilitation Act of 1973, could result in the loss of historic fabric or the introduction of new visual and non-historic elements. For example, the doorways of buildings could require widening and ramps, or wheel chair lifts may be added to the exterior of buildings. These impacts would be considered moderate if the Secretary of the Interior standards for rehabilitation and guidelines for the restoration of historic buildings is followed because they would potentially involve only a few components of sites with high data potential. To minimize these, minor perceptible but localized impacts to the historic values of these structures, historic architectural studies and plans for modification would be developed to reduce damage to the historic integrity of structures and ensure the highest levels of compatibility possible. To minimize the potential for loss of historic fabric, historic structure reports and rehabilitation plans would be developed by qualified architects. The SHPO and concerned preservation societies would review all plans prior to implementation of any changes. Appropriate mitigation measures would be developed, including use of historically appropriate materials and designs. As a result, these impacts would be kept to a negligible level.

Actions undertaken to minimize erosion along historic roads and trails would be implemented in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) and would preserve the integrity of these cultural resources. Such measures would include use of historic building materials or screening or concealment of erosion control structures using historic landscape features. Consultation and coordination with the cultural resource advisors, and incorporation of their recommendations into improvement plans, would minimize impacts.

► **Cultural Landscapes**

The expansion or improvement of existing visitor centers and interpretive facilities, or construction of new structures, parking areas, trailheads and trails, and picnicking and camping sites, could impact the cultural landscapes of the recreation area by disrupting or destroying historic settings and other characteristics of integrity. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. The careful design of facility improvements would include consultation with historical landscape architects, architects, or landscape historians and Native American Indian groups. The use of compatible materials in the construction of new facilities, interpretive waysides, or trails would reduce impacts to cultural landscapes to negligible levels.

Though potentially significant cultural landscapes would be protected and preserved, continued visitor use could result in increased erosion and vandalism, accelerating the degradation of contributing landscape features and elements such as roads and trails, structures, fence rows, and orchards. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity

of such facilities, and could be considered moderate impacts. However, the SMMNRA interpretive and educational programs would increase visitor appreciation of the resources and how they are preserved and managed, as well as provide an understanding of how to experience such resources without inadvertently damaging them. The continuation of these programs would reduce visitor impacts to cultural landscapes to negligible levels. Preventative maintenance of the resources would also reduce impacts.

The designation of Mulholland Drive/Highway as a scenic corridor would encourage public interest in the corridor and its associated resources. Designation as either a heritage corridor or cultural landscape could foster increased awareness and recognition of Mulholland Drive as a historic resource. At the same time, such designations would also likely generate increased traffic, which could create major impacts that would include widespread and highly noticeable deterioration of setting and other aspects of integrity. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource could be provided to eliminate these impacts. Such measures would include traffic volume control, parking control, and expanded transit options.

► **Ethnography**

Through consultation with concerned Native American Indian groups, ethnographic resource values have been taken into consideration early in the planning process. The limited developments proposed under the no action alternative would be designed to reduce or eliminate direct impacts to known ethnographic sites. These impacts would be considered moderate because they could potentially result in a perceptible degradation of a Native American site with moderate to high historic data potential.

These sites would, to a greater or lesser extent, depending upon their location and nature, remain susceptible to such impacts as natural deterioration, inadvertent damage by human activity, and vandalism. Erosion control, restricted access, visitor education, and other measures would be implemented to ensure that these impacts are kept to negligible levels. Supporting Native American Indian participation in the interpretation of ethnographic resources would continue to expand the interpretation of the ethnographic resources of the SMMNRA. Such actions would enhance the ability to protect and preserve ethnographic resources and continue the traditional cultural practices, as well as increase appreciation of traditional cultures.

► **Component Actions**

Actions that would proceed under the no action alternative (continuation of current management plans and policies) are listed below, along with their potential impact on cultural resources and the mitigation measures to minimize those impacts. In a majority of instances, however, the presence or absence of cultural resources has not yet been ascertained. As a result, the intensity of impacts cannot always be determined at this time.

- 1. Distribution of land with the current use intensities: low 30 percent, moderate 60 percent, high 10 percent** The moderate intensity use areas serve as buffer zones between culturally sensitive areas and areas of high intensity use. Moderate use areas, however, are accessible to visitors, which could result in erosion, inadvertent damage, and vandalism. A 60 percent distribution of moderate intensity use areas tempers the potential for these impacts to cultural resources to occur within the moderate areas. However, it also provides accessibility to the low-intensity use areas. The 30 percent distribution of low-intensity use areas

also allow the potential of direct impacts to cultural resources because of the relatively small acreage reserved for preservation and protection. The visibility afforded adjacent, low-intensity use areas, however, minimize the possibility of intentional vandalism and negligible to moderate impacts would be expected to occur because impacts would occur infrequently and would be localized along exposed fringes of sites only. The following mitigation measure is recommended to prevent any impacts from occurring:

- ✓ The administering agencies shall continue to inventory cultural resources in accordance with Section 110 of the National Historic Preservation Act of 1966, as amended (16 USC 470).

2. **The Backbone Trail is to be completed as a multi-use trail.**— Trail construction might directly impact historic properties through disturbance of archaeological sites, erosion, or introduction of non-native plants. Mountain bike riding could be moderately to highly destructive to cultural resources through the acceleration of erosion. This action has the potential to impact resources, and the intensity of impacts could range from negligible to moderate. Negligible impacts could occur if trails are constructed some distance away from any sites with high cultural value. Moderate impacts could result, however, if trails are sited through, or adjacent to, sites with high cultural potential. A cultural resources inventory, evaluation, and assessment program conducted by a qualified archeologist and historical landscape architect would precede all trail construction. If resources are identified, such mitigation measures as avoidance or archaeological data recovery would be implemented.

- ✓ Native American Indian groups would be consulted to determine appropriate mitigation measures regarding potential impacts to cultural landscapes and places of traditional or sacred significance.
- ✓ To the extent feasible, the trail would be constructed to avoid or minimize impacts to the traditional values of such places.

3. **Develop coastal education centers at Leo Carrillo State Beach to provide environmental education and visitor orientation.**—

Construction activities might directly affect historic properties in the project area through disturbance of archeological sites, erosion or other means. These impacts could range from negligible to moderate. Negligible impacts could occur if trails are constructed some distance away from any sites with high cultural value. Moderate impacts could result, however, if trails are sited through, or adjacent to, sites with high cultural potential. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, evaluation, and impact assessment program would precede construction. If resources are identified, mitigation measures such as avoidance of data recovery would be implemented. Concerned Native American Indian groups would be consulted to determine appropriate mitigation measures regarding potential impacts.
- ✓ Qualified archeologists and Native American Indian representatives would conduct monitoring of ground disturbance in the vicinity of known or suspected archeological resources. Should unknown resources be identified, a qualified archeologist would conduct data recovery in consultation with the SHPO.

- 4. The California State Parks Headquarters would remain in its current location.** The headquarters are located in a house that was originally constructed for the film *Mr. Blandings Builds His Dream House* (1948). This structure is potentially eligible for inclusion on the National Register of Historic Places. Any construction or rehabilitation might cause the alteration, removal, or destruction of original materials that contribute to the historic significance of the property. These impacts would be considered moderate because they could noticeably change the historic character of the site. The following mitigation measures are recommended:

 - ✓ Any structural modifications would be preceded by, evaluation, and assessment investigations and consultations appropriate to understanding and preserving the resource.
 - ✓ The SHPO would be provided with the opportunity to comment on the proposed component action and any proposed mitigation measures, which might include alterations or new construction carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). The structure would be evaluated for National Register eligibility and, if eligible, any modifications to the structures report that would document the history and changes through time of the structure.
- 5. The Santa Monica Mountains Conservancy offices would remain in their current location.** – No potential impact to historic properties exists based on the proposed action; mitigation measures are required. This building is not eligible for the NRHP. Therefore, modifications are not subject to the NHPA.
- 6. Construct a staging area and accessible trail at Liberty Canyon.**– Construction might directly affect historic or archeological resources located in the project area through disturbance of archeological sites, erosion, or other areas. These impacts could be considered moderate if sites with high archeological value are extensively affected. If resources are identified, the following mitigation measures are recommended:

 - ✓ A cultural resources inventory, evaluation and assessment program, followed by mitigation through avoidance or data recovery, if necessary, would precede plan implementation.
 - ✓ Concerned American Indian groups would be consulted prior to plan finalization, to assist in determining appropriate mitigation measures. Monitoring of ground disturbance would take place in the vicinity of known or suspected archeological resources.
- 7. Continue mammal tracking.** Mammal tracking by recreation area researchers has caused the creation of new trails, which was unforeseen and therefore not previously incorporated into management plans. These new trails provide access to areas that previously were largely inaccessible, some of which contain cultural resources. Accessibility to these areas would increase the potential for impacts due to vandalism, looting, and inadvertent damage such as trampling, although these impacts are negligible because they occur in localized areas that are centered around previously disturbed sites. The following mitigation measure is recommended:

 - ✓ Trails created by mammal tracking activities that intersect constructed trails would have posted signs educating or restricting use by visitors.

8. Overnight use would be permitted at Leo Carrillo State Beach, Thornhill Broome Beach, Sycamore Cove, Circle X Ranch, Malibu Creek State Park District

Headquarters, and Trippet Ranch.— Circle X Ranch, Malibu Creek State Park District Headquarters, Sycamore Cove, and Leo Carrillo State Beach are in the vicinity of known historic Native American Indian settlements. Overnight use of these areas might increase the potential for impacts to historic properties through increased rates of erosion, inadvertent damage, or vandalism. Impacts caused by these activities, however, are likely minor to negligible because the effects would be relatively localized and would be centered on previously disturbed areas. The following mitigation measures are recommended:

- ✓ Activities in these areas would include the restriction of fires to aboveground grills, and the location of tent pads in areas that have been previously disturbed. Archeological surveys by a qualified archeologist would be required of any new areas designated for overnight camping, followed by assessment of impacts to any resources. Mitigation, if necessary, would include avoidance or data recovery. Because the presence or absence of resources has not yet been determined, the intensity of impacts cannot be defined.
- ✓ The visual and recreational elements of Mulholland Drive would be promoted and preserved.

CUMULATIVE IMPACTS

A number of projects included in the “Cumulative Impacts Methodology” section identified potential cumulative impacts on cultural resources in the area. These projects include the Las Posas Basin Aquifer Storage

and Recovery Project, the Creek Discharge Avoidance Study Alternatives, and the Getty Villa *Master Plan*. Each of the environmental analysis documents states that the implementation of mitigation measures would reduce cumulative impacts to cultural resources to a less than significant levels. Visitor usage and proposed facility development could potentially add to the cumulative impacts to cultural resources in the area. However, facilities would be sited at previously disturbed locations. Implementation of the mitigation measures for direct impact to cultural resources would reduce potential impacts to cultural resources to negligible levels. Therefore, cumulative impacts to regional cultural resources from the no action alternative would be the combination of minor impacts from the GMP project combined with less-than-significant cumulative impacts from other major projects in the region. The result would be negligible cumulative cultural resource impacts.

CONCLUSIONS

The no action alternative would have impacts on cultural resources. This is largely due the designation of 60 percent of the SMMNRA lands as moderate use and 10 percent as high use. As a result, only 30 percent would have a low intensity designation, the classification that offers the most protection to historic properties. A potentially high number of cultural resources would be at risk by project impacts and the potential for unintended damage without mitigation would be high. With mitigation, these negligible to moderate impacts would be further reduced.

VISITOR EXPERIENCE

ANALYSIS

Under the no action alternative, new facilities may attract more visitors to portions of the SMMNRA. Increased visitor use in these

areas is expected to cause increases in traffic, crowding, and noise. Increased traffic, noise, and crowding may have moderate long-term adverse impacts to visitors that prefer solitude. However, the new facilities would have a moderate beneficial effect on many visitors who appreciate a more structured and social experience.

Although the number of visitors would increase under this alternative, educational and recreational opportunities would remain relatively constant. The same activities currently available at the SMMNRA (e.g., interpretive programs and recreational opportunities) would continue to be available to park visitors. Despite the continued availability of most of the activities within the SMMNRA, this alternative would result in moderate impacts to visitor experience due to the increased number of visitors to the park and its facilities. These impacts could be mitigated by guiding visitors to high use areas, encouraging visitor use during less busy times, and limiting opportunities for parking outside of designated parking areas and providing adequate parking at, or alternative transportation to, high intensity use areas.

CUMULATIVE IMPACTS

Though review of available environmental analysis documents for the current and planned projects described in the “Cumulative Impacts Methodology” section did not identify significant cumulative impacts to visitor experience that would result from these projects. These projects would increase development, human presence and residential areas adjacent to and within the SMMNRA.

Under the no action alternative, increased use levels would likely occur in the vicinity of new facilities. As overall park visitation increases with population growth and increased tourism in the L.A. area, visitors may experience more crowding and noise, and observe more resource impacts at the

park facilities and trails. Changes may occur slowly, but would eventually have a moderate to major long-term negative cumulative impact on those visitors wishing to experience solitude, quiet or a rustic park experience.

CONCLUSIONS

Under the no action alternative, increased visitor use associated with new facilities may have a moderate adverse long-term impact on some visitors. Impacts on visitor experience are expected to be beneficial overall. The quality and range of visitor experience may gradually decrease over time as cumulative impacts from increased development, population and tourism reduce opportunities for solitude and quiet. Though impacts resulting from increased visitor use would be reduced by the following mitigation measures, these mitigation measures are not likely to change the intensity and severity of the impacts.

LAND USE AND SOCIOECONOMIC ENVIRONMENT

Land Use

ANALYSIS

Current recreation area management options consist of low, moderate, and high intensity use areas. Figure 14 illustrates the designated land uses within each of the local county and city jurisdictions. Existing urbanized areas are managed as urban landscape areas, in recognition of the established development patterns. Examples of urbanized areas within the SMMNRA include the coast within the city of Malibu. Major landforms such as Laguna Peak and Tri Peaks are identified and managed as low use areas. A moderate use management philosophy is applied to areas that separate low use resource preservation lands and urban communities. Figure 14

depicts lands currently managed as low, moderate, high, and urban landscape areas. The no action alternative would maintain the present land use and management approach. In addition, no boundary studies would be recommended or undertaken as a result of this alternative. Although no changes to current NPS management of the study area would be implemented under the no action alternative, inconsistencies exist between the management areas established by the NPS and the designated land uses included in county and city planning documents. These inconsistencies are primarily due to overlap between locally designated residential land uses and NPS assigned low and moderate use intensity management areas in the cities of Los Angeles, Malibu, Westlake Village, and Calabasas, Los Angeles County, and a minimal area in Ventura County.

Within portions of unincorporated Los Angeles County and the cities of Malibu and Los Angeles, the NPS has established low use management areas that overlap with land designated for residential development. Low intensity management areas have an emphasis on “natural and cultural resource preservation and a sense of being immersed in a natural and wild landscape away from the comforts and conveniences of ‘civilization.’” Residential development, even at low densities, would substantially diminish this sense of being surrounded by a completely natural landscape. This impact is therefore considered a major impact because residential uses would significantly diminish the primary focus of the low intensity management zone as areas of natural landscape, and would preclude many of the activities available in such an environment.

By managing areas that overlap with locally designated residential areas as moderate, rather than low, use intensity zones, impacts remain because the two are inconsistent with residential uses. However,

impacts that are considered major due to overlap between low management areas and residential land could sometimes be reduced to moderate impacts under moderate use intensity management in designated low-density residential land. As a result, moderate to major impacts would occur within residentially designated portions in the cities of Westlake Village, Calabasas, Malibu, and Los Angeles, as well as Los Angeles and Ventura Counties, that overlap moderate use intensity zones. The NPS describes moderate intensity areas as areas with emphasis “predominantly on the natural environment, but there would also be a sense of being near the familiarity, comforts, and convenience of civilization.” Therefore, while low density residential development could partially maintain a sense of “being surrounded by the natural landscape,” which would be considered a moderate impact, higher density development (i.e., gated developments and multi-family housing) would significantly diminish the ability of the area to provide that sense, and would result in a major impact. Impacts within the cities of Westlake and Malibu, as well as Los Angeles and Ventura Counties, would primarily be expected to be moderate due to low-density or rural development, or the small overall size of the residential designation. Inconsistencies in Calabasas between residential land and moderate-use intensity management areas would be moderate to major, depending on the density of development within the residential zone.

Impacts would also be potentially moderate to major within residentially designated portions of Los Angeles County and the city of Los Angeles that are within an NPS high use management zone, depending on the surrounding development and the nature of the facility and/or use envisioned by the NPS. For example, moderate impacts may be likely to occur, because the

surrounding area remains relatively undeveloped and would be developed with fairly low-density uses, which would be able to accommodate a degree of visitor usage (i.e., for a parking lot and/or a small visitor's center), while providing a "sense of being surrounded by the scenic landscape and cultural resources of a unit of the national park system," as described for high intensity management areas. Moderate impacts due to such inconsistencies would also occur in the city of Malibu. Although much of the area along PCH is developed, the roadway provides an uninterrupted view of the Pacific Ocean and its coastal beaches that represent an important resource to the region. Therefore, while inconsistencies exist, the individual could still experience the sense of being surrounded by nature. In addition, the area already experiences high visitor usage, and visitation would not increase substantially with the additional designation of the area as a high use intensity area.

The land use inconsistencies between locally designated residential areas and low and moderate use intensity management areas could be partially mitigated by close coordination between NPS and local jurisdictions during land development policy and plan amendment processes to increase the consistency of land use management approaches.

Impacts of a lower intensity would occur in high use intensity management areas that are already designated open space by local land use authorities because those areas would provide a greater sense of being within a national park. In the city of Los Angeles, and both Los Angeles and Ventura Counties, negligible to minor impacts would occur due to the development of facilities and the designation of high intensity use management areas, depending on whether the open space is designated for urban recreation rather than resource protection. Negligible impacts

would result from high use management areas if an open space area has the primary goal of urban recreation because such uses/facilities would not substantially detract from the existing use of the area.

More substantial impacts could be expected if an open space area is dedicated to resource protection, because additional development and/or use could diminish the role of the open space to protect natural resources. However, these impacts would remain minor since the high use intensity designation and facility development would only occur on already disturbed or highly used sites, or at the perimeter of the parkland, and would therefore not greatly decrease the value of the open space. In addition, high use intensity areas are not located adjacent to any locally designated habitat preservation areas, which minimizes the potential for impacts to natural protected resources due to visitor use in high intensity areas or facilities. Activity within the SMMNRA would also be controlled, and would afford a higher level of protection than areas under local control. Negligible to minor impacts would occur under the no action alternative at WODOC, Franklin Canyon, Temescal Gateway Park, Angeles District Headquarters, Rocky Oaks, Kanan Dume Road, Charmlee Natural Area, Circle X Ranch, Rancho Sierra Vista/Satwiwa, Ventura State Beaches and Las Virgenes Canyon. These impacts would be mitigated through the design of access within high-use intensity management areas to direct visitor use away from areas primarily designated for resource protection.

No impacts associated with commercial designations would occur with implementation of the no action alternative because the few commercially designated areas within the boundary are located within the existing urban landscape, which is not actively managed by the NPS. Impacts associated with industrial and agricultural

designated land would be negligible because locally designated industrial and agricultural areas are nominal within the SMMNRA boundary.

CUMULATIVE IMPACTS

A number of developments are proposed for the sites within and adjacent to the SMMNRA on land that is currently vacant. Four of the projects included in the cumulative impacts analysis identified potential for cumulative land use impacts in the region. The *Getty Villa Master Plan Draft EIR* acknowledges cumulative land use impacts. The environmental analysis documents for Ahmanson Ranch, Dayton Canyon Estates, and the Calabasas Landfill Special Use Permit each identify cumulative land use impacts related to a shift in land use within the region from open space and rural land to residential development. These shifts lead to a potential decline in recreational/open space quality of public open space lands that cannot be fully mitigated, as stated in the Ahmanson Ranch *Final EIR*. Although the proposed no action alternative would not incrementally add to the cumulative land use impacts occurring in the region, the impacts identified by the individual projects evaluated for cumulative impacts are considered major and would continue.

Over time, the implementation of the no action alternative, coupled with additional open space acquisition and open space dedication required of many private developments by local jurisdictions, could result in an increase of dedicated open space (despite a decrease in overall vacant space). Therefore, a decreased intensity of use would result in a portion of the land within the SMMNRA. The dedicated open space would more likely be consistent with the GMP/EIS intensity designation than the current land use designation and the dedication of open space would reduce, but not eliminate, the land use inconsistency.

CONCLUSIONS

The no action alternative would maintain the present land use and management approach. In addition, no boundary studies would be recommended or undertaken as a result of this alternative. Various moderate and major impacts would occur as a result of implementation of the no action alternative, as described above. These impacts would occur because of inconsistencies in locally designated land uses and NPS prescribed management areas.

Population, Housing and Employment

ANALYSIS

The Southern California Association of Governments assembles and publishes population, housing and employment projections for its member agencies. These forecasts are reviewed by local planning agencies (i.e., cities and counties) for consistency with zoning and local growth constraints such as topography, and adjusted to represent the best estimate of future growth.

The adjusted forecasts presented in the Affected Environment chapter served as the basis for review of each alternative, including the no action alternative. The no action alternative would not result in changes in population and housing. The number of jobs created to staff new facilities would be small within the SMMNRA and surrounding region relative to the number of jobs in the region. Negligible impacts to population, housing, or employment would be expected because the number of jobs that would result from this alternative would not result in a detectable change to the employment opportunities in the region.

CUMULATIVE IMPACTS

Cumulative impacts in the Ahmanson Ranch *Final EIR* identify a positive effect on available housing associated with residential



development in a job rich, housing poor area with an increasing population. The no action alternative would not change population growth and would not provide additional housing. No changes to existing cumulative impacts are expected. Although employment within the SMMNRA may increase slightly with park and facility development, the additional employment would not be sufficient to alter regional employment patterns and would not result in cumulative impacts to area employment.

CONCLUSIONS

This alternative would not result in a change in population or housing within the SMMNRA or surrounding region. The number of jobs created to staff new facilities would be extremely small within the SMMNRA and surrounding region relative to regional employment. No mitigation measures are required.

Transportation

ANALYSIS

Regional and Local Highway Network

Under the no action alternative the roads within and near the SMMNRA would continue to provide for access and egress to the recreational destinations and parklands within the SMMNRA as well as the private lands and residences located within the SMMNRA.

The Southern California Association of Governments develops future year projections of traffic volumes. The SCAG forecasts were used to provide an indication of the general magnitude to traffic that would be using the major routes in and near the SMMNRA in the future. For the purposes of this analysis the SCAG data was adjusted to represent the estimated average daily traffic volumes in the year 2015. The future traffic volumes are presented in Table 23.

A level of service (LOS) evaluation was conducted according to the procedures outlined in the *Transportation Research Board's Highway Capacity Manual (HCM)*—*Special Report 209* and the *Highway Capacity Software (HCS)* for roadway sections using the year 2015 projections. The results of the year 2015 LOS analysis for the major routes in and near the SMMNRA are summarized in Table 23.

The LOS analysis results indicate that most of the major corridors serving the SMMNRA, including three of the four major north-south corridors over the mountains, PCH between Kanan Dume Road and I-10, and Highway 101, would be operating at capacity by the year 2015. The LOS of other secondary roads within the study area would degrade slightly but still provide an acceptable LOS between now and the year 2015.

According to SCAG the vehicle use on Highway 101 would continue to increase. By the year 2015 the traffic volume on this highway is projected to be between 200,000 and 377,000 ADT. By this time the highway would operate at capacity during most daytime hours.

It is estimated that by the year 2015 PCH would receive up to an additional 20,000 ADT. Volumes west of SR 23 would increase to almost 34,000 ADT while volumes near I-10 would increase to nearly 89,000 ADT. By the year 2015 traffic congestion along PCH would increase to the point that bumper-to-bumper traffic and long vehicle delays would be the norm throughout the day during the summer months and on weekends in the shoulder seasons. By the year 2015 PCH corridor would be operating at LOS E from the Kanan Dume Road east to I-10 during peak periods.

As traffic increases in the future the LOS on most of Mulholland Highway would continue to provide an adequate LOS. Traffic volume increases on Mulholland in the

Table 23

YEAR 2015 LEVEL OF SERVICE SUMMARY*						
Route	From	To	1998 ADT	1998 LOS*	2015 ADT	2015 LOS*
Highway 101	Las Virgenes Rd.	Kanan Rd.	183,200	E	241,700	F
Mulholland Hwy.	Topanga Canyon Blvd.	Old Topanga Canyon Rd.	7,400	D	10,000**	E
Mulholland Hwy.	Topanga Canyon Blvd.	Malibu Canyon Rd.	2,800	B	4,000**	C
Mulholland Hwy.	Kanan Dume	SR 23	150	A	200**	A
PCH	I-10	Sunset Blvd.	68,700	E	88,900	F
PCH	Malibu Canyon Rd.	Kanan Dume	26,000	B	41,700	C
PCH	SR 23	Point Mugu	10,800	A/D***	33,900	C/F***
Topanga Canyon	PCH	Mulholland	14,200	E	19,000**	F
Malibu Canyon Rd.	PCH	Mulholland	22,800	F	31,000**	F
Kanan Dume Rd.	PCH	Mulholland	10,700	E	15,000**	E
SR 23	PCH	Mulholland	1,000	A	1,100	C

* LOS represents PM peak hour conditions.

** Traffic projection not available for SCAG, 2 percent annual growth rate used and rounded up for estimate projection shown. All other projections were obtained from SCAG.

*** LOS A/D represents LOS A where there are two travel lanes in the direction of travel and LOS D where there is only one travel lane in each direction. The same holds true for LOS C/F.

ADT represents Average Daily Traffic.

vicinity of Topanga Canyon Boulevard would degrade to performance of the road to LOS E by the year 2015.

Traffic volumes on Topanga Canyon Boulevard are estimated to grow at a 2 percent annual growth rate and are estimated to increase to approximately 19,000 ADT by the year 2015. With this traffic increase would come added traffic congestion. The LOS on Topanga Canyon Boulevard would degrade to LOS F by the year 2015.

Traffic volumes on the Malibu Canyon corridor are estimated to grow at 2 percent annually and carry approximately 31,000 ADT by the year 2015. This corridor would provide LOS F in the year 2015.

Traffic volumes on the Kanan Dume Road would increase to approximately 15,000 ADT by the year 2015 and continue to provide LOS E during the peak hours of the day.

State Route 23 corridor volumes would increase on slightly to 1,400 ADT by the year 2015 and operate at LOS C.

Under this alternative the NPS would continue the policy of encouraging and supporting the removal of street lighting and power poles from the corridors within SMMNRA.

Public Transportation

Public transportation to destinations within and near the SMMNRA would continue to be provided in the future as part of this



alternative. The current transit providers would continue to provide transit service along portions of PCH and along the Highway 101 corridor at levels that are similar to what is currently provided.

Under this alternative the NPS would continue the policy of encouraging and supporting others in developing additional public transit options for visitors to the SMMNRA and commuters passing through the SMMNRA.

► **Parking**

The various parking facilities that serve the recreation areas within the SMMNRA would remain as they are at this time. Demand for these parking areas is expected to increase in future years. The lack of adequate parking for the beaches along PCH would continue to get worse as visitation increases. Traffic problems created by visitors parking along the shoulders of PCH would also continue to get worse over time.

Demand for parking in areas within the SMMNRA that serve the trailheads and other recreational areas would continue to grow in the future. Most of the existing parking areas would be able to accommodate visitor demand on most days for the foreseeable future. The parking area serving Cheeseboro Canyon would continue to be saturated on weekends and large visitation weekdays.

As part of this alternative a new parking lot would be constructed to serve the proposed "Gateway to Santa Monica Mountains Visitor Center" at Leo Carrillo State Beach. This new parking facility would be sized to handle passenger vehicles as well as buses.

CUMULATIVE IMPACTS

Traffic volumes on the roads within and near the SMMNRA would continue to increase due to growth in the surrounding communities. Traffic congestion would increase accordingly at critical intersections

and on the high volume corridors. Topanga Canyon Road, Malibu Canyon Road, Kanan Dume Road, and PCH from Malibu east would experience the greatest amounts of traffic congestion and other related problems. All other roads within the SMMNRA would experience increased volumes over time, but would continue to operate effectively and without unacceptable levels of traffic congestion.

CONCLUSIONS

It is not within the ability of the NPS to control or restrict growth in the surrounding communities. Mitigation would include the promotion and development of transit operations and ridesharing programs, which would help reduce the number of vehicles using the commuter corridors through the SMMNRA.

Public Services and Utilities

ANALYSIS

► **Public Services**

The no action alternative proposes new facilities and improvements to existing facilities. Under this alternative, the demand for fire protection services would be similar to current service demands. According to the VSS and Los Angeles and Ventura Counties, who provide fire protection and emergency response services to the SMMNRA, the development of the new and modified park facilities could be served with no need for additional fire protection facilities or personnel. With implementation of the no action alternative, negligible impacts would be expected to public services since there would be no substantial change in the existing requirements. The impacts would be further reduced through increased fire awareness for park visitors, including signage and public information, and limiting storage of combustible, flammable materials onsite.

Police protection services would be expected to remain similar to current service levels with implementation of the no action alternative. Based on the type of new park facilities and improvements to existing facilities, a substantial demand on police protection services would not be expected and only negligible impacts would be expected. These impacts would be further reduced through NPS VSS consultation with the Los Angeles and Ventura County Sheriff Departments to ensure adequate police protection services.

► **Water/Wastewater**

The no action alternative proposes development of park facilities along with improvements to existing facilities that would require an increase in potable and non-potable water demands. While the precise rate of water consumption for these facilities is not known, it is estimated that only a relatively small increase in water demands compared to existing water demands would be required to support the proposed land uses and facilities. Based on discussions with the LVMWD, adequate water supplies and facilities currently exist to support the projected water demands of this alternative. With respect to wastewater services and facilities, the LVMWD could provide wastewater service to park facilities associated with this alternative or on-site septic systems could be utilized. Based on the existing available capabilities provided by LVMWD, only negligible impacts to water and wastewater services are expected with the no action alternative. If necessary, these impacts could be further reduced by providing onsite groundwater wells, water storage and planning on-site septic systems as necessary during facility planning stages.

Future development would be required to examine the potential increase in demand for water/wastewater services, in conjunction with subsequent environmental review.

► **Waste Management**

Under this alternative, the level of waste management service would be expected to increase slightly from current generation rates. According to Los Angeles County, adequate solid waste capacity is available for the projects associated with this alternative. Based on the relatively small amount of solid waste generated as part of this alternative, plus the available capacity of regional landfill facilities, only negligible impacts to waste management services and facilities would be expected as a result of this alternative. These impacts could be further reduced through identifying the location of the nearest solid waste facility with capacity to handle additional waste flow and confirmation of available solid waste capacity for each facility at the planning stage.

► **Energy**

Construction and operation of facilities associated with the no action alternative would result in a relatively small increase in electric and natural gas consumption. Adequate electric and natural gas transmission facilities and capacity is available for land uses and facilities associated with this alternative. Based on the available facilities and adequate capacity, only negligible energy impacts are expected as a result of this alternative. These impacts could be further reduced through minimizing energy consumption on park lands, confirming availability of energy supply from local utilities, and possibly producing alternative energy supplies onsite (i.e., solar or individual generators).

CUMULATIVE IMPACTS

A number of projects included in the cumulative impacts methodology section identified regional cumulative impacts on public services and utilities. Environmental analysis documents for Ahmanson Ranch, Getty Villa, Lake Eleanor Hills, Dayton

Canyon Estates, and Coldwater Canyon each identify various regional cumulative impacts to public services and utilities.

Maintaining adequate public services such as fire protection and law enforcement is an issue addressed by each of the documents. Continued development, including Ahmanson Ranch, Lake Eleanor Hills, and Getty Villa may generate the need for additional services. These potential regional cumulative impacts to such services are considered significant by each of the above projects, and although the incremental additions to such services would be minimal with implementation of the no action alternative, it could add incrementally to the cumulative impacts in the area.

Ensuring adequate water supply for existing customers and future development continues to be an important issue for developing areas in southern California, and is identified as a significant cumulative impact in the Ahmanson Ranch and Coldwater Canon documents, and less than significant in the Getty Villa document. Although the impacts associated with the proposed no action alternative are negligible, the project would add incrementally to moderate cumulative effects on water supply. Wastewater capacity is acknowledged as a cumulative impact in the Getty Villa *Draft EIR* that is not anticipated to be significant, due to existing excess capacity in the Hyperion Treatment Plant. The negligible additions the no action alternative would make to regional wastewater streams would result in minor cumulative impacts to wastewater treatment capacity.

The significant need for additional regional solid waste capacity is identified in the environmental documents for several projects reviewed for cumulative impacts. Although the no action alternative would add negligible solid waste to regional production, the cumulative impact would remain significant.

Energy is a public service addressed by the Getty Villa *Draft EIR*. Although the expansion of the existing museum would not be expected to result in cumulative impacts to energy resources, continued development in the region would continue to add to the consumption of available electric and natural gas energy supplies, and could become a concern as development occurs. These cumulative impacts are considered minor due to the current construction and permitting of numerous power generating facilities in California. The no action alternative would not significantly add to energy consumption in the region and the cumulative impact would remain minor.

CONCLUSIONS

The no action alternative would have only negligible impacts on public services and utilities due to existing available capacity at local suppliers.

UNAVOIDABLE ADVERSE IMPACTS

Various negligible to minor adverse impacts after mitigation have been identified for soils and geology, water resources, flood plains, biological resources, paleontology, cultural resources, visitor experience, employment, and public services and utilities. These impacts are included in the "Analysis of Impacts" discussions for each resource. These impacts are not expected to have an overall effect on the respective resources. Impacts to visitor experience and land use were the only moderate to major impacts identified for the no action alternative.

Increased visitor use in areas where new facilities are developed is expected to cause increased traffic, crowding, and noise. This may have moderate adverse impacts to visitors that prefer to experience quiet and solitude.

Inconsistencies in locally designated land uses and NPS prescribed management areas would result in moderate and major adverse impacts to land use. Major adverse impacts would occur where low use management areas overlap areas designated for residential development. Moderate to major impacts occur where moderate and high intensity use areas overlap with residential areas.

Irreversible/Irretrievable Commitment of Resource

There would be minor irreversible or irretrievable commitments of biological resources and cultural resources. Commitments would come from vegetation, wildlife habitat, or archeological resources lost to development of permanent facilities, and on-going maintenance of roads and trails.

Impacts identified for land use would involve permanent inconsistencies once areas designated for inconsistent development under local land use plans are developed. The management areas designated by NPS, however, would not result in irreversible/irretrievable commitment of resources because local land use decisions would continue to control development of property not owned by NPS.

The current plans encourage short-term, primarily non-consumptive uses of biological resources (e.g., bird watching, hiking). These uses do not come at the expense of long-term productivity. In fact, constraints on short-term uses should enhance the long-term productivity of the area. No other disciplines would be affected.

Preferred Alternative

NATURAL RESOURCES

Soils and Geology

ANALYSIS

► Soils

The types of direct and indirect impacts on soil and geologic resources resulting from proposed facilities development in the preferred alternative would be similar to the no action alternative. These developments, along with proposed improvements to existing facilities, include six visitor centers (plus one outside the recreation area in Exposition Park), installation of four new camps along the Backbone Trail that passes through areas of low and medium intensity use, completion of the Backbone Trail, and several education centers. These facilities would be developed on previously disturbed sites, whenever possible. Adverse impacts resulting from these development activities could include the removal and disturbance of soils and geologic deposits through construction activities, such as cut and fill, grading, and paving. Removal of soils and vegetation by surface-disturbing activities could also result in increased soil erosion that can, in turn, adversely affect off-site vegetation and increase siltation in downstream watercourses. Adverse impacts associated with construction activities are anticipated to be short-term and minor or moderate without mitigation. These impacts are considered minor or moderate because construction sites would be small and localized, erosion would be limited to construction areas, and construction activities would be intermittent and temporary in nature. If these impacts occur in areas containing non-erodible soils, the effects



would be perceptible, although their presence would not have an overall effect on soil resources in the SMMNRA. If, however, such impacts occur in areas with erodible soils, a noticeable effect on area soil resources could occur and moderate impacts would result. Level of impact is similar to that of the no action alternative; however, impacts under the preferred alternative would affect a larger area due to the increased number of facilities.

Adverse impacts on soil resources could also result from soil erosion and increased debris flows from removal and disturbance to soils for fuel management, fire suppression, search and rescue operations, and trail maintenance. The risk of unplanned fires resulting from visitor use would be increased in the areas adjacent to new facilities. The length of the scenic corridor roads in the SMMNRA would be modified to include Malibu Canyon Road and would eliminate the use of Mulholland Drive east of the junction of these two roads. This would increase the risk of fires within Malibu Canyon, but lessen the risk in the eastern quarter of the SMMNRA. These effects are expected to be minor to moderate because they would occur intermittently and temporarily due to emergency fire suppression activities or unexpected fires and would be limited to affected areas. Erosion due to visitor use would also be limited to the immediate area. Such impacts would be minor in areas with non-erodible soils or low intensities of visitor use because, although perceptible impacts may occur to soil resources due to slight erosion, these impacts would not have an overall effect on soil resources within the SMMNRA. Moderate impacts would be more likely to occur in areas with erodible soils or high visitor use due to the increased soil erosion and the increased potential for noticeable impacts that affect soil resources as a whole within the SMMNRA. Impacts from fuel

management, trail management, and facility development in this alternative are expected to be continual and minor to moderate. The level and duration of impact would be similar to that of the no action alternative, although impacts under the preferred alternative would affect a larger area because the difference in area is not substantial enough to cause a major impact.

Increased soil erosion from increased visitor use would occur in high use areas. However, the greater proportion of areas designated as low intensity use under the preferred alternative would result in beneficial impacts compared to the no action alternative. Impacts of soil erosion from visitor use are expected to be perceptible but would not change area erosion. They would therefore be minor and ongoing, similar to the no action alternative.

Erosion control measures such as sediment retention basins, silt fences, or slope stabilization would be included in all facility development plans and would be implemented for surface-disturbing activities, such as construction or trail maintenance. Adverse impacts on soils from management activities, maintenance, and visitor use would be minimized or avoided through careful planning and enforcement. Visitor management and visitor education would be effective in minimizing many potential impacts. Fire clearance zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs, should be effective in reducing the likelihood of visitor caused fires. These mitigation measures would reduce potential impacts related to construction and visitor use to minor and negligible, respectively. Some beneficial effects of the preferred alternative include decreased erosion and siltation, which would be due to restoring disturbed areas in the recreation area to natural conditions. These

restorations would include eliminating some fire roads, rerouting and revegetating trails in or near sensitive resources, and removing some roads and restoring them to a natural condition or reconfiguring them to low impact trails. The reduction or elimination of parking in some areas of the SMMNRA would reduce the impacts on the vegetation and the soil mantle. There would be less erosion and resultant siltation under this alternative compared to the no action alternative. Decreased soil erosion from curtailed visitor use in low intensity areas, revegetation of roads, trails, and parking areas would be localized in areas of low intensity uses and revegetation, but a minor, long-term, beneficial effect is expected.

► **Geologic Hazards**

Unmitigated geologic hazards could impose potentially major long-term adverse impacts to public health and property after facilities development. The principal hazards within the SMMNRA are ground shaking, landslides, debris flows, and ground failures resulting from liquefaction. These impacts would be considered major because there would be a potential for substantial human safety risk and property loss.

Potential impacts resulting from geologic hazards would be limited to areas where facilities would be added. The potential exposure to unmitigated permanent geologic hazards is greater than the no action alternative, due to the increased number of facilities in the preferred alternative.

The primary mitigation for geologic hazards relative to proposed facilities development remains the same for all alternatives. This includes the avoidance of geologic hazard zones through careful siting of facilities and minimizing hazard impacts through careful design and construction practices. All grading and construction plans would be submitted to qualified technical

staff within the administering agencies for geologic and geotechnical review prior to approval. Geotechnical and geologic hazard investigations would be conducted prior to project implementation with a focus on projects in areas of concern. Such areas include projects involving hillside terrain, proximity to active or potentially active faults, and areas of possible liquefaction. New facilities would be sited to avoid geologic hazard zones. New facilities and the modification of existing facilities would be designed and constructed in compliance with all applicable state and federal building code standards. Avoidance of geologic hazard zones would reduce impacts to minor.

CUMULATIVE IMPACTS

Cumulative impacts to soil and geologic resources from the preferred alternative are similar to those described for the no action alternative and would be minor, contributing to the currently identified minor cumulative impacts to soils and geologic hazards. Though more facilities would be developed under the preferred alternative compared to the no action alternative, proposed facility locations are dispersed throughout the SMMNRA, would be localized, and would not be expected to increase cumulative impacts. Increasing the proportion of areas of low intensity use would have a minor beneficial effect on the cumulative soil and geologic hazard impacts.

CONCLUSIONS

The preferred alternative would result in direct and indirect impacts on soil and geologic resources, which would be similar to the minor to moderate short-term impacts associated with the no action alternative.

Beneficial effects of the preferred alternative include plans to restore disturbed areas in the recreation area to natural conditions. There would be a modest



decrease in erosion and resultant siltation under this alternative compared to the no action alternative due to a greater proportion of the area designated as low intensity use.

Geologic hazards could impose major adverse impacts to public health and property as a result of facilities development. This alternative includes more facilities and improvements than the no action alternative and therefore increased potential exposure to geologic hazards. Mitigation measures discussed in the analysis of impacts section would reduce impacts for soils and geologic hazards to minor:

Soil resources and exposure to geologic hazards on privately held land would largely depend upon local enforcement of land use and building permits by other local agencies.

Water Resources

ANALYSIS

The proposed facilities of the preferred alternative could adversely affect the water quality of water resources within the SMMNRA similar to the no action alternative. Impacts could include an increase in the runoff volumes and rates from these areas that could potentially cause streambed and bank erosion, habitat scour, and benthic smothering from the increased flows. Runoff from these areas could also contain pollutants such as hydrocarbons and heavy metals from vehicles. These pollutants could cause minor short- and long-term impacts on the health of the aquatic life in the streams and rivers. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas. These impacts are anticipated to remain minor, although the area of impact may be larger than the no

action alternative, due to the increased number of facilities.

Direct short-term minor impacts could occur during construction phases of the proposed facilities. Clearing vegetation during construction and grading activities leaves soils exposed to erosion during rainfall, and these could impact the stream turbidity and suspended sediment levels which could affect light penetration and visibility in the streams. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas. Accidental spills of fuel and other automotive fluids could occur during the servicing of construction equipment and could impact waterways if these activities are conducted near waterways or without berms or other means of secondary containment. Increased use of unsealed tracks and roads may also result in erosion risk. Impacts from the increased use of unsealed tracks/roads and other activities associated with increased visitor use and trail management activities could be moderate. Septic systems that are not properly located, designed and constructed could also cause moderate short- and long-term impacts to surface or ground water. These impacts would be moderate because fuel or sewage spills could potentially affect the quality of waterways and water bodies within the SMMNRA. They would occur only intermittently and would be temporary, however, and would be limited to the area surrounding construction sites or septic tanks. The area of impact may be slightly larger than the no action alternative, due to the increased number of facilities.

Mitigation of these impacts would be applied in two phases, during construction and longer term, more permanent measures.

Mitigation during construction would be achieved through development of a construction stormwater management plan by a qualified professional, which would emphasize careful planning of activities to minimize soil disturbance, and would recommend on-site temporary water treatments, such as silt fences and sedimentation ponds. The plan would be prepared for all construction activities affecting one or more acres and would include best management practices such as temporary on-site water treatments, such as silt fences and sedimentation ponds. Fueling and servicing of construction equipment would not occur within 100 feet of a waterbody or drainage area unless adequate spill control/containment is provided. These measures would retain pollutants on-site and reduce the downstream impacts of construction.

Longer-term mitigation of potential impacts for the proposed facilities would include some treatment of the runoff from developed areas to reduce pollutants such as toxicants from vehicles or pathogens from restroom facilities from reaching the waterways. A qualified engineer within the administering agencies would conduct a soils and engineering evaluation to support the location and design of all septic system repairs, upgrades, and installations. The permanent mitigation measures would be planned and designed as part of the detailed design of the proposed facilities. Impacts after mitigation would be minor.

The proposed campground or trail camps could result in moderate impacts to water resources by increasing pathogen levels in the waterways and posing a threat to aquatic and human health. Mitigation of these impacts would be through planning the location of the restroom facilities and associated septic systems to minimize the delivery of pathogens to surface water. Erosion control

measures such as sediment retention ponds, silt fencing, or slope stabilization techniques would be employed to reduce the erosion risks. Impacts to water resources from campground facilities would be reduced to minor after mitigation.

Another impact from the trail campsites and other developments would be the extraction of potable water. The source of drinking water for these camps would need to be considered carefully, as removing too much from the existing stream system may result in widespread and substantial degradation of water flow and habitat quality. These would be considered moderate adverse impacts to aquatic life in the stream. The availability of good quality drinking water might determine the feasible size of camps and would be considered carefully in the detailed design phase. Impacts could be reduced to minor after mitigation.

There would also be moderate beneficial effects under the preferred alternative. Some of the degraded tracks and paths would be restored in the low intensity areas, therefore noticeably reducing the risk of erosion on the waterways.

CUMULATIVE IMPACTS

The preferred alternative involves construction of several facilities within the Malibu Creek watershed. These facilities would result in minor impacts to water resources from increased run-off and pollutants. The preferred alternative would contribute to cumulative impacts identified for the Malibu Creek watershed in the Ahmanson Ranch *Draft EIR*. However, the contribution would be minimal due to the small size of the proposed facilities relative to larger development projects affecting the watershed. Cumulative impacts in the region would remain moderate.

Increasing the proportion of areas of low intensity use under the preferred alternative



would have a minor beneficial effect on water resources in Malibu Creek and other watersheds. Cumulative impacts to water resources may increase in other watersheds in the future as densities of development increase within areas designated for future residential and commercial use. These impacts would be reviewed on a watershed basis in future NEPA documentation when facilities are funded for site identification/development, design, and construction.

CONCLUSIONS

Under the preferred alternative, minor adverse impacts are expected to water resources in the areas that are proposed to be developed with visitor centers and expanded campgrounds, including reduced water quality, potential flooding and potential reduced flows from water extraction.

The overall impacts on water quality of the preferred alternative would be minor provided appropriate mitigation measures are employed. The most emphasis should be placed on the construction of new facilities (water quality and quantity impacts) and on the restoration of degraded trails in the low intensity areas (water quality improvements). The overall areas that are proposed for development with facilities are small compared to the overall watershed and therefore are expected to only provide minimal additional impacts compared to existing conditions.

Flood Plains

ANALYSIS

The major drainages/flood plains in the SMMNRA as described in the Affected Environment chapter include Calleguas and Malibu Creeks as well at the Arroyo Sequit stream. The preferred alternative proposes the following facilities and uses in the vicinity of these flood plains that either include

modified/new structures or would increase the access to and extended duration of activities (especially over night) in the flood plains.

- Mugu Lagoon Visitor Center and CSUCI Research and Information Facility are located in the vicinity of Calleguas Creek flood plain
- Leo Carrillo State Beach campground redesign and Circle X Ranch camp are located in the vicinity of the Arroyo Sequit stream flood plain
- Paramount Ranch Film History Center, Las Virgenes Environmental Education Center, Gillette Ranch Joint Administration and Environmental Education Center, Malibu Bluffs, Northern Gateway Visitor Center, and Malibu Pier Visitor Contact Station are located in the vicinity of the Malibu Creek flood plain.

Additionally, this alternative includes areas designated as high intensity use that encompass the Calleguas and Malibu Creek flood plains as well at the Arroyo Sequit stream flood plain.

The specific locations for the structures and use areas for facilities listed above have not been determined. Therefore, it is not possible to identify the intensity or severity of the impacts at this time. However, locating structures/extended use areas for one of the proposed facilities within the 100-year flood plain would result in long-term moderate adverse impacts because it would increase access to the flood plain and provide for the construction of facilities within the flood plain. These actions would increase the potential for loss of life or property through increased potential for flooding. Locating structures/extended use areas for more than one facility in the 100-year flood plain would result in major long-term adverse impacts because the potential for flood damage would increase.

The preferred alternative includes changing intensity use designations from high or medium to low in the area of the Malibu and Calleguas Creeks and Arroyo Sequit stream flood plains. This would reduce access to and duration of activities in the flood plain and would have moderate beneficial effects because the potential for loss of life or property would noticeably decrease.

These impacts could be reduced through mitigation. During siting of structures and use areas for proposed facilities in the vicinity of a flood plain, an engineering evaluation would be conducted by a qualified engineer to identify the boundaries of the 100-year flood plain. Unless infeasible, structures and use areas would be located outside the flood plain boundaries. Facilities and trails within the 100-year flood plain would be closed 24 hours prior to a predicted 50-year, 24-hour storm even. NPS would use various warning systems and would patrol use areas within the flood plain prior to and during storms to assure that these areas are not occupied. For example, VCFCF has operated a flood warning system since February 1979. The system is called "ALERT", an acronym for Automated Local Evaluation in Real Time, which was developed by the National Weather Services. In addition, signage would be provided at the flood plain boundary on trails and access roads alerting park users that they are about to enter an area prone to flooding during wet weather conditions.

CUMULATIVE IMPACTS

The preferred alternative could contribute substantially to cumulative impacts to flood plains, similar to the no action alternative.

CONCLUSIONS

The preferred alternative could result in potentially moderate adverse long-term impacts related to the above facilities and the designation of high intensity use that encompasses the Malibu and Calleguas

Creeks and Arroyo Sequit stream flood plains. Moderate beneficial effects would result from changing current high and medium intensity use areas to low in the area of the Malibu and Calleguas Creek flood plains. The actual intensity of adverse impacts cannot be determined until the specific facility locations are determined. Mitigation measures, as discussed in the analysis of impacts section, would reduce the adverse impacts related to flood plains to minor.

Biological Resources and Wetlands

ANALYSIS

► Vegetation

Direct and indirect adverse impacts on native vegetation in the preferred alternative, overall, would be less than in the no action alternative. Previously disturbed areas would be restored to natural conditions, although 13 facilities would be added or modified in previously disturbed sites within park boundaries in compliance with environmentally sensitive criteria. The specific biological resources affected by the development of projects within this alternative would be presented in separate NEPA/CEQA documentation prepared for each project, although some general consequences may include the impacts discussed in the following paragraphs and sections.

Development of these proposed facilities would have direct impacts on previously modified or ruderal vegetation, and would have a minor to negligible affect on native vegetation. For example, within the park, there may be small areas of temporary adverse impacts on native vegetation around the fringes of disturbed areas from these developments due to cut and fill, grading, fuel management zone, and paving requirements. These impacts on native vegetation would be localized, and minor or negligible in intensity. The vegetation currently occupying the



development sites would presumably be ruderal prior to implementation of the development plan, and would not result in elimination of additional native vegetation. If construction areas should potentially support sensitive plant or wildlife species, appropriate consultations with the USFWS and CDFG would be conducted during the planning stages of the projects, and if found *a propos*, agreed upon mitigation would be implemented as conditions of the projects. By rehabilitating existing disturbed areas with native vegetation, including unused trails and roads, for example, impacts on the acreage of native vegetation, in balance, should be beneficial.

The effects of newly created edges between habitats could be expected adjacent to developed facilities. Edge effects are changes within a “zone of influence” between habitats that may vary in width, depending upon what is measured. The intensities of edge effects are frequently dependent upon the sizes and shapes of the disturbed areas and, therefore, the lengths of the edges between habitats. Such effects could include changes in biotic factors as temperature, relative humidity, penetration of light, and exposure to wind, each of which could affect the presence or distribution of species within the area. Biotic changes due to edge effects could include, among others, elevated plant mortality, depressed migratory bird usage and breeding near habitat margins, or increases in insect species diversity (Soule 1986, Meffe and Carroll 1997). For projects within the SMMNRA, the size and extent of such edge effects, if any, would be analyzed in additional documentation prepared for each project. These would likely be negligible to minor in intensity because the siting of projects would be localized and limited to areas that have been previously disturbed, which are less likely to support sensitive native vegetation.

Adverse impacts on native vegetation could also result from local land use requirements of fuel management zones around developed structures. For example, Los Angeles County regulations require a 200-foot fire suppression zone around structures built within chaparral vegetation. Natural vegetation is removed and replaced with fire-retardant landscape species from an approved plant palette. The intensity of this impact depends upon the size of the development area and its shape. Spherically shaped developments would have a smaller edge than a long linear development of the same size and, accordingly, a smaller amount of vegetation would be removed to comply with fire suppression regulations. These fire suppression zones would be permanent. The risk of unplanned fires resulting from visitor use would be increased in the areas adjacent to new facilities. This would increase the intensity of impacts on vegetation from the effects of fire. The intensity and frequency of this impact is uncertain due to the unpredictability of such fires. However, impacts resulting from wildfires pose a major risk for biota in natural areas throughout most of the SMMNRA, depending on the extent of sensitive species that would need to be replaced, as described above. For vegetation near roads, the risk of fires is greatest, often resulting from burning objects being thrown from vehicles. In this alternative, the length of the scenic corridor designations in the SMMNRA would be modified to include Malibu Canyon Road and eliminate the use of Mulholland Drive east of the junction of these two roads. This would likely moderately increase the risks of wildfires in the vegetation near Malibu Canyon Road and lessen the risks near Mulholland Drive.

Beneficial effects of the preferred alternative include plans to restore disturbed areas in the park to natural conditions. With

time, the amount of native vegetation in the park would likely increase, and areas now supporting disturbed vegetation would decrease from development of park facilities. Examples of areas that could be restored to natural conditions would include unused trails and roads, or the sites of buildings that are no longer present, or abandoned horse corrals. Opportunities for native revegetation of habitats around and within newly developed facilities may also be found, and, in some facilities, native species could be used for landscaping.

About 80 percent of the SMMNRA area would be designated as a low intensity area where visitor access to sensitive resources would be neither facilitated nor encouraged. The low intensity areas would be generally surrounded by moderate intensity areas, which would act as buffers between the low intensity areas and the higher use areas. Typical edge effects would be beneficial for the preferred alternative compared to the no action alternative due partially to the alternative's emphasis on habitat restoration where feasible, and the use of previously disturbed sites for facility developments. Edge effects could include changes in such biotic factors as temperature, relative humidity, penetration of light, and exposure to wind, each of which could affect the presence or distribution of species within the area. The strategy of utilizing existing disturbed areas would avoid creating new edge effects and impacts on sensitive biological resources and would be considered a negligible to minor impact. The designation of low intensity use areas would also contribute to the lessening of impact intensities on sensitive biological resources because it would further limit public access to core areas that support populations of sensitive species. The primary mitigation for proposed facilities development is the avoidance of undisturbed native vegetation

through careful siting of facilities. New development would be sited in previously disturbed areas, which would normally support stands of exotic vegetation, thereby avoiding or minimizing impacts on undisturbed, native vegetation. All grading and construction plans would be submitted by a qualified professional to the administering agencies for review prior to approval. Areas temporarily disturbed during construction would be recontoured, then revegetated with appropriate native plant species, and appropriate fire-suppression zones would be maintained around developed structures. Erosion control measures, such as temporary sedimentation basins and silt fences during construction, rerouting trails to avoid problem areas, or repairing washouts on trails with temporary (rice) straw bales (debris traps), would be installed for surface disturbing activities, such as construction or trail maintenance. Clearance surveys would be conducted by qualified biologists prior to project implementation in the appropriate season for listed species, as well as other species of federal or state concern (listed in Table 13). These surveys would be used in the site planning of facilities to avoid sensitive species. The administering agencies would consult with the USFWS and CDFG, if any listed species or its habitat may be affected during a proposed action. Compliance with California law would be required for proposed actions that may affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes. Monitoring by a qualified biologist is required for surface disturbing activities in, or in close proximity to, sensitive vegetative resources (e.g., wetlands, listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur

during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

Adverse impacts on vegetation from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning of facilities and programs, considering the distribution of sensitive biological resources during the planning processes. Visitor management and visitor education programs, which would be developed and presented in the NEPA documentation for each project, would be effective in minimizing many potential impacts. For example, requirements for pre-construction meetings with biologists and construction crews could be integrated into contracts to emphasize the effects of management or visitor activities within specific biological communities, resource locations, or activities that would be inappropriate for, or detrimental to, biological resources. Such standard educational programs could be adopted for all projects within the SMMNRA, and established within the contracts of all projects. In a more general way, standard educational themes emphasizing potential impacts on biological resources could be incorporated into all educational and community outreach programs conducted by the SMMNRA.

Fire clearance zones would be incorporated into the planning of new facility developments. Educational efforts, such as posting fire hazard signs and distributing

educational brochures, should be effective in reducing the likelihood of visitor caused fires and their resultant impacts. If vegetation is lost or disturbed from visitor activities, the area would be rehabilitated or revegetated with species from an appropriate native plant palette and seed/plants would be obtained from local sources or facilities would be relocated.

The preferred alternative includes the provision of proposed boundary changes and future studies to create additional resource protection along the north-central borders of the park, and to determine recommended boundary adjustments north of Cheeseboro/Palo Comado Canyons. Such boundary changes would potentially provide additional protection to vegetation in the linkages within Ventura County. The no action alternative does not include this provision. If these proposed boundary changes are implemented, the preferred alternative would potentially increase the protection of vegetation to the north of the current SMMNRA substantially, and provide for additional linkages to other open spaces, and at minimum, for archipelago (steppingstone) linkages to other habitat areas in the north.

In general, mitigation measures would be effective in avoiding or minimizing loss of natural vegetation, and permanent loss in the preservation areas would be relatively small as result of the preferred alternative. Because the majority of the lands within the SMMNRA would be designated for low intensity use, impacts on biological resources throughout the park would be minor and reduced from levels expected in the no action alternative.

► **Wildlife**

Facilities development for the preferred alternative would have direct, impacts on some wildlife species, especially those that

are adapted to use of disturbed habitats, similar to the impacts described in the no action alternative biological resources section. Some impact-tolerant species, such as starlings, would be displaced to other similar areas of the SMMNRA, or to areas outside the park's boundaries. Removal of such disturbed habitat would have a minor effect on these wildlife species because they are highly adaptable and disturbed habitats are common. A few species of small mammals, birds, reptiles, and amphibians would be permanently or temporarily displaced by construction activities. Adjacent populations could be adversely affected as displaced wildlife attempt to inhabit off-site areas where other individuals are already established. There is little potential for decreases in the habitat available for endangered, threatened, rare or sensitive species of wildlife in this alternative. Negligible or minor impacts would occur if only a small portion of habitat is affected, or if construction/disturbance occurs during non-breeding seasons and individuals or populations are not noticeably affected. Major impacts could result, however, if a large proportion or critical area of the population is affected or if disturbance occurs during breeding seasons such that the viability of the population is threatened. In addition, major impacts could occur if sensitive or endangered species are impacted, even to a small extent. These negligible to major impacts on disturbed wildlife habitats from facility development under the preferred alternative would likely be higher than those of the no action alternative due to the increase in the number of facilities. Effects of the preferred alternative on endangered, threatened, rare, or sensitive wildlife species due to the greater percentage of area that is designated as low intensity use would be beneficial compared to the no action alternative.

Visitor uses, such as hiking, horseback riding, and mountain biking could have direct and indirect adverse effects on all classes of wildlife. Direct impacts include disturbance of soils supporting vegetation, trampling or removal of vegetation, and disturbance of wildlife activities and habitat, especially for species that are sensitive to the presence of humans. Indirect effects from visitor use would include disruption of wildlife activities for some species. Some species, such as mountain lion and deer, are particularly sensitive to human activity in their proximity and may avoid water sources as a result of visitor activity. Impacts on wildlife from visitor activities under this alternative, in general, would be beneficial, primarily due to the park's designation of low intensity use zones. However, the intensity of impacts would vary from negligible to major on different wildlife species, depending upon the particular species, location, and land use involved. Mountain lions and golden eagles, for example, would likely be more affected by human activities along trails, and could experience major impacts than would other species, such as some small species of rodents, birds, amphibians, and reptiles. These small species would probably be less affected by human trail activity and could therefore be subject to only negligible to minor impacts.

Construction planning and monitoring by a qualified biologist in areas supporting sensitive wildlife would reduce or prevent some impacts. Avoidance of undisturbed native vegetation and wetlands would occur through careful siting of facilities. New development would be sited in previously disturbed area; thereby avoiding or minimizing impacts on undisturbed native vegetation. All grading and construction plans would be submitted to a qualified professional for review prior to approval. Pre-project surveys would be conducted by



qualified biologists prior to project implementation in the appropriate season for listed species, as well as other species of federal or state concern (see Table 12). The administering agencies would consult with the USFWS and CDFG during the detailed planning phase of a project, if any listed species or its habitat may be affected during a proposed action. Compliance with California law would be required for proposed actions that may affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes.

Monitoring by a qualified biologist would likely be required for surface disturbing activities in or in close proximity to, sensitive wildlife resources (e.g., listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

► **Habitat Connectivity**

Implementation of the preferred alternative would enhance the connectivity of undisturbed habitats in the SMMNRA by creating very large expanses of open space, with a nearly continuous connection of low impact usage along the entire east/west axis of the park. About 80 percent of the SMMNRA would fall into this category. Such large expanses of natural habitat would

promote healthy populations of numerous wildlife species, including sedentary species of some lizards, mice, rabbits, and insects, to name a few. It also would provide large areas and territories for use by larger, more mobile species, such as coyotes, grey foxes, passerine birds, and deer. Areas of moderate intensity area designation would occur primarily around urban centers, and in several larger inclusions west of Sycamore Canyon, and along Deer Creek Canyon and west of Sycamore Canyon in Ventura County. In Los Angeles County, these inclusions of moderate intensity area would center around Chamlee Natural Area, the Rocky Oaks/Paramount Ranch area, and at the eastern head of the Backbone Trail. The scenic corridors would be limited to Malibu Canyon Road and Mulholland Drive. Potentially, this configuration of designated use areas could reduce impacts on specific wildlife species from human activities by perhaps one or more level of intensity (major to moderate, moderate to minor to negligible) for many species when compared with the no action alternative.

Connectivity of habitat and movement corridors would be enhanced by the increase in designated low intensity areas, in comparison with the no action alternative. Furthermore, the potential addition of lands on the western and northern boundaries of the park would increase the amount of conservation and connectivity of habitats in those areas. This would provide long term connectivity for predators and their prey, such as mountain lions, coyotes, and deer, which, in turn, would provide more natural, healthy ecosystem functions throughout the park. Populations of mountain lions, for example, would likely have better reproductive vigor because of the increase in gene flow over decades of time. This would bolster the health of predator-prey relationships throughout the park.

As with the no action alternative, the primary mitigation to offset impacts from new development would be the avoidance of sensitive habitats and habitat linkage areas through careful project siting. A qualified biologist in the administering agencies would evaluate all proposed actions for their affects on habitats and on habitat connectivity to avoid or mitigate further habitat fragmentation. New developments would be excluded from existing wildlife corridors, or minimized to the greatest extent practicable, to ensure the continued exchange of genes and individuals between wildlife populations within and adjacent to the SMMNRA. Where already constrained movement corridors are identified, new developments would be precluded or minimized to allow for the areas continued function as a habitat connection. Degraded habitats within conserved linkage areas would be restored. The feasibility of retrofitting wildlife underpasses where primary roads intersect with wildlife movement areas within the park would be considered in the NEPA documentation prepared for projects that may affect habitat linkages within their sphere of influence. The most effective means of maintaining habitat connectivity is through the maintenance of sufficiently wide (greater than 400 feet) habitat linkages between major blocks of habitat. Lagoons, coastal wetlands and marine interface areas would receive focused protection and management through the use of general agreements with land use regulatory agencies, research agencies and university research.

■ **Wetlands**

Several of the proposed facilities included in the preferred alternative are located in close proximity to wetland resources:

- **The Mugu Lagoon Visitor Education Center**– would be sited between PCH and the lagoon within an already disturbed upland site. This facility includes a perimeter boardwalk for visitor viewing of the lagoon and associated wildlife.
- **The Circle X Ranch**– includes a substantial riparian area located adjacent to existing developed areas and trails.
- **Leo Carrillo State Beach campground** is located within a major drainage and riparian area. The rehabilitation of this facility would be focused toward relocating selected campground activity areas away from riparian areas to allow for riparian habitat enhancement and restoration.
- **Paramount Ranch**– has a substantial riparian area that bisects it. Existing access through this riparian area would be maintained.

Impacts to wetland resources associated with this alternative are considered to be potentially minor to moderate and short-term. Facilities would be located near, but not within, wetlands, whenever feasible. Impacts to wetlands range from minor to major. Minor impacts would be expected with uses adjacent to wetlands that have a slightly perceptible impact on wetland value or function, but are localized or affect only edge habitats on non-sensitive species. Major impacts could occur, however, if a facility or visitor use area is located within a wetland and substantially decreases its function or value. The impacts under this alternative would be mostly associated with linear infrastructure improvements and would be minimized by avoidance to the extent practical. Major impacts to wetland resources are not expected because impacts associated with facility construction would be localized and sited outside wetland boundaries.



Wetlands and riparian habitats are considered sensitive resources to be conserved and enhanced wherever practicable. New facilities would be sited away from wetlands wherever practicable. A detailed wetland delineation in accordance with ACOE protocol would be conducted prior to site engineering so that this information could be used during the site design process. New facility infrastructure (water, sewer, roads, or trails) would avoid wetland resources where upland alignments are practical. These activities would be isolated, localized and infrequent. Upland buffers between wetlands and facilities would be provided wherever practicable. Where existing facilities require long-term maintenance or enhancement (e.g. Circle X Ranch), siting of infrastructure improvements would minimize impacts to wetland resources wherever practicable. Existing disturbed areas within the drainage reach associated with the facility would be utilized where avoidance of wetland impacts is not practicable. Indirect impacts to water quality and downstream sedimentation would be avoided through site design to minimize erosion and divert runoff water to detention basins where appropriate. Opportunities to restore and enhance disturbed wetland resource areas adjacent to facilities would be identified during the site design process. Closure of selected roads and trails would provide opportunities for wetland restoration resulting in a minor long-term benefit. Unavoidable impacts to wetland resources would be fully mitigated through the 404/401 and 1603 wetlands permitting process, which emphasizes avoidance and minimization of impacts prior to considering compensatory mitigation.

CUMULATIVE IMPACTS

Cumulative impacts of the preferred alternative would be similar to those minor cumulative impacts described under the no

action alternative. However, the preferred alternative would have a more substantial beneficial effect on the SMMNRA's biological resources due to the increased percentage of low intensity use areas. Overall, the regional cumulative impacts to biological resources and wetlands would remain minor.

CONCLUSIONS

Direct and indirect adverse impacts on native vegetation in the preferred alternative would be similar to the education and preservation alternatives. A variety of edge effects, such as noise and lighting disturbances to wildlife and losses of vegetation from foot traffic, could be expected within a zone of existing and future facilities having relatively high human usage. The width of such edge effects would be analyzed in the documentation prepared for each project. Moderate adverse impacts on native vegetation would result from requirements of fuel management zones around developed structures. Impacts from fuel management and facility development in the preferred alternative would be moderately higher than in the no action alternative.

Beneficial effects of the preferred alternative include rerouting and revegetating trails in or near sensitive resources and reconfiguring roads.

About 80 percent of the SMMNRA area would be designated as low intensity areas where visitor access to sensitive resources would be neither facilitated nor encouraged. The low intensity areas would be generally surrounded by moderate intensity areas, which would act as buffers between the low intensity areas and the higher use areas. Typical edge effects would be less for the preferred alternative compared to the no action alternative.

The preferred alternative includes the provision of proposed boundary changes and future studies to create additional resource protection along the northcentral borders of the park, and to determine recommended

boundary adjustments north of Cheeseboro/Palo Comado Canyons. Such boundary changes would potentially provide additional protection to vegetation in the linkages within Ventura County. The no action alternative does not include this provision.

Facilities development would have negligible to minor direct, localized impacts on some wildlife species, especially those that are adapted to use of disturbed habitats. Impacts from facility development under this alternative would be higher than those of the no action alternative. Visitor uses, such as hiking, horseback riding, and mountain biking would have direct and indirect, adverse effects on all classes of wildlife and wetlands. Impacts from visitor uses under the preferred alternative would be less than in those of the no action alternative. Implementation of the preferred alternative would enhance the connectivity of undisturbed habitats in the SMMNRA by creating very large expanses of open space. There is little potential for decreases in the habitat available for endangered, threatened, rare or sensitive species of wildlife in this alternative. Connectivity of habitat and movement corridors would be enhanced by the increase in designated low intensity areas, in comparison with the no action alternative. Further, the potential addition of lands on the western and northern boundaries of the park would increase the amount of conservation and connectivity of habitats in those areas.

In general, mitigation measures would be effective in avoiding or minimizing loss of natural vegetation, and permanent loss in the preservation areas would be minor as result of the preferred alternative. Because the majority of the lands within the SMMNRA would be designated for low intensity use, impacts on biological resources throughout the park would be reduced from levels expected in the no action alternative.

Paleontology

ANALYSIS

Under the preferred alternative, potential impacts to paleontologic resources would result from facilities developments, fire suppression, and full management. Impacts are similar to the no-action alternative but would affect a larger area due to increased facilities development. Some facilities would be established in previously disturbed areas, and the facilities proposed for decommissioning under this alternative also are in previously disturbed areas. Nevertheless, moderate adverse short-term impacts to paleontologic resources could result from the limited disturbance of sediments that possess high to moderate paleontologic sensitivity by the excavation and grading of previously undisturbed sediments. Excavation, grading and paving of previously disturbed sediments would not result in adverse impacts to paleontologic resources. Restoration of disturbed areas to natural conditions and decommissioning of certain facilities would impact paleontologic resources to the extent that previously undisturbed sediments of high to moderate paleontologic sensitivity would be impacted.

Adverse long-term impacts could occur as a consequence of trail development where paleontologically sensitive sediments, previously protected from erosion by soil and vegetation, are exposed to erosion. Without mitigation, this impact is anticipated to be moderate due to the potential for disturbing a limited extent of deposits with moderate to high paleontological potential. Additionally, unauthorized collection of fossils would result in loss of the scientific and educational potential of those specimens. This loss would constitute an adverse, minor long-term impact because facilities and high use intensity areas would be likely to encompass only limited deposits with moderate to high

paleontological potential because of their location in previously disturbed areas and the limited public access to such sites within the SMMNRA.

Mitigation of adverse impacts to paleontologic resources would include determination of whether sediments of high to moderate paleontologic sensitivity would be impacted. This would be conducted by a qualified paleontologist during the administering agencies' grading and construction plan review. If sediments of high to moderate paleontologic sensitivity were to be disturbed, monitoring by a qualified paleontologist would occur during excavation. If fossils were discovered, then excavation would be halted in the immediate vicinity of the find until the discoveries were removed in a scientifically controlled fashion by a qualified paleontologist. Recovery of the scientific data potential of the fossils would reduce impacts to a minor level. Additional mitigation measures would include public education implemented by the administering agencies regarding the scientific and educational importance of fossils, and enhanced awareness of enforcement of California State and NPS non-collection policies. Facility development would be located away from known paleontology resources.

CUMULATIVE IMPACTS

The preferred alternative involves development of more facilities than the no action alternative, and therefore would have increased potential for impacts to paleontological resources. However, the contribution to cumulative impacts is expected to be similar to the no action alternative because the minor impacts would be very localized and could be successfully mitigated. Cumulative impacts therefore would remain minor as identified in the listed project documents.

CONCLUSIONS

Under the preferred alternative, impacts to paleontologic resources would result from grading related to facility development, fuel management and trail development. Moderate adverse short-term impacts to paleontologic resources could result from the disturbance of sediments during construction activities. Unauthorized collection of fossils could result in loss of the scientific and educational potential of those specimens, and would constitute a minor adverse, long-term impact. The mitigation measures discussed in the analysis of impacts section would reduce impacts to minor.

CULTURAL RESOURCES

ANALYSIS

When conflicts between natural and cultural resource values occur in the management of the SMMNRA, an assessment will be conducted to weigh the values and determine an appropriate direction.

Impacts to cultural resources resulting from such direction, however, would be mitigated to the fullest extent possible and reduced to negligible levels. The guidance articulated above in no manner relieves the recreation area from its responsibilities under Section 106 of the National Historic Preservation Act or under CEQA. The anticipated higher levels of visitation would make the recreation area's cultural resources more susceptible to degradation. However, implementation of the preferred alternative would significantly enhance the interpretive/educational components of the recreation areas' cultural resource management program, which would increase public sensitivity to the importance of the resources and potentially limit such degradation by instilling a greater understanding and appreciation of the resources. The development of stewardship

programs could limit the destructive effects of vandalism through increased public involvement and awareness.

The SMMNRA's outreach policy, which includes conducting programs for school children, would be expanded under the preferred alternative by incorporating more information and values about cultural resources into the curriculum. This would help build an enlightened constituency that would benefit the recreation area and resource preservation goals for the future.

SMMNRA's interest in or acquisition of nearby lands would benefit the recreation area's cultural resources by extending the protection of federal ownership, as well as protecting the viewsheds from cultural resources from inappropriate development adjacent to the recreation area boundaries.

Staff of the SMMNRA would continue to interact with neighboring landowners and jurisdictions to ensure, to the extent feasible, that adjacent land management practices do not impair the recreation area's cultural resources, viewsheds, or distant vistas.

► **Archeological Resources**

Archeological resources would be protected from the effects of development and visitor use, where possible. However, sites would remain susceptible to natural deterioration, inadvertent damage by human activity, and vandalism in areas further removed from the purview of recreation area staff. Some sites would eventually be lost. Further deterioration or destruction of archeological sites in the recreation area by natural forces or human activity would result in the loss of resource values associated with the prehistory and history of the region. Such impacts are expected to be negligible because this alternative would not increase public accessibility to archeological sites in the SMMNRA. With appropriate mitigation, these impacts could be further reduced.

To ensure that adequate consideration and protection are accorded archeological resources, record searches and, where appropriate, archeological surveys conducted by qualified archeologists would precede all ground disturbing activities on recreation area lands. Archeological and Native American Indian monitoring would be conducted by a qualified individual and would occur where ground disturbance is expected in the vicinity of known or suspected cultural resources. If cultural materials were unearthed during construction activities, all work in the immediate vicinity of the discovery would be halted until the resources could be identified, their significance assessed and any necessary mitigation undertaken. Potential mitigation measures could include avoidance, preservation, or data recovery. Consultation with the Western Archeological Center on appropriate management and mitigation actions would immediately occur. If construction impacts upon archeological sites cannot be avoided, the California State Historic Preservation Office and concerned Native American Indian groups would be consulted in the development of mitigation strategies.

If human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during facilities or trail improvements, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed.

Prior to the implementation of construction, the APE for cultural resources would be defined, a record review conducted and a pedestrian survey completed by a qualified archeologist. Mitigation measures, including avoidance or data recovery, would be proposed if resources are identified, and the SHPO would be afforded the opportunity to consult on measures for cultural resources protection and mitigation of adverse impacts.

Monitoring by a qualified archeologist and a Native American Indian representative would accompany any ground disturbing construction. In the case of any unanticipated discoveries, all ground-disturbing activities in the vicinity would be stopped until the significance of the find is determined.

Management plans would incorporate measures to reduce or eliminate indirect impacts to cultural resources to negligible levels. Such measures might include restrictions on access, signage, visitor education, or data recovery.

► **Historic Structures**

No direct impacts to the three historic structures within the recreation area's boundaries that are listed in the National Register of Historic Places would result from the implementation of the preferred alternative. Although visitor use to such structures would be limited, minor impacts resulting from continued visitation of the Adamson House, Loeff's Hippodrome (on Santa Monica Pier), and the Will Rogers House might gradually occur due to wear-and-tear and routine maintenance activities. These impacts would be considered minor because they are localized and gradual. In this event, rehabilitation would be carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

To appropriately preserve and protect the many historic structures of SMMNRA that are either listed in, or potentially eligible for, listing on the National Register of Historic Places, all preservation and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would continue to be conducted in accordance with the National Park Service's *Management Policies* (1988) and *Cultural Resource Management Guideline* (1996), and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). All

potentially historic resources would be inventoried and evaluated, and a "determination of eligibility" would be prepared in accordance with section 106 of the NHPA.

Making historic structures accessible to the physically challenged, to comply with the Architectural Barriers Act of 1968 and the Rehabilitation Act of 1973, could result in the loss of historic fabric or the introduction of new visual and non-historic elements. For example, the doorways of buildings could require widening and ramps or adding wheel chair lifts to the exterior of buildings. These impacts would be considered moderate because they would potentially involve only a few components of sites with high data potential. To minimize the perceptible but localized moderate impacts to the historic values of these structures, historic architectural studies and plans for modification would be developed to reduce damage to the historic integrity of structures and ensure the highest levels of compatibility possible. All plans would be reviewed by the SHPO and concerned preservation societies prior to implementation of any changes. In addition, all modifications to historic structures would comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) for rehabilitation. As a result, these impacts would be kept to a negligible level.

Actions undertaken to minimize erosion along historic roads and trails would be implemented in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995) would preserve the integrity of these cultural resources. Such measures would include use of historic building materials or concealment of erosion control structures using historic landscape features. Consultation and coordination with the historic preservation staff, and incorporation of their recommendations into improvement plans, would minimize impacts.

■ Cultural Landscapes

The expansion and/or improvement of existing visitor centers and interpretive facilities, or construction of new structures, parking areas, trailheads, trails, and picnicking and camping sites, could impact the cultural landscapes of the SMMNRA by disrupting or destroying historic settings and other characteristics of integrity. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. The careful design of facility improvements, including consultation with cultural resource advisors and Native American Indian groups, and the use of compatible materials in the construction of new facilities, interpretive waysides, or trails, would reduce impacts to cultural landscapes to negligible levels. All projects affecting cultural resources that are eligible, or potentially eligible for the register of historic places would be performed following the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Though potentially significant cultural landscapes would be protected and preserved, continued visitor use could result in increased erosion and vandalism, accelerating the degradation of contributing landscape features and elements such as roads and trails, structures, fence rows, and orchards. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. However, the SMMNRA interpretive and educational programs would increase visitor appreciation of the resources and how they are preserved and managed, as well as provide an understanding of how to experience such resources without inadvertently damaging them. The continuation of these programs would

eliminate or reduce visitor impacts to cultural landscapes to negligible levels.

The designation of Mulholland Drive, Malibu Canyon Road, and the PCH as scenic corridors would encourage public interest in the corridor and its associated resources. At the same time, such designations would also likely generate increased traffic, which could create major impacts that would include widespread and highly noticeable deterioration of setting, feeling, and other aspects of integrity. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource could be provided to reduce or eliminate these impacts. Such measures would include traffic volume control, parking control, and expanded transit options.

■ Ethnography

Through consultation with concerned Native American Indian groups, ethnographic resource values are taken into consideration early in the planning process. The limited developments proposed under the preferred alternative could be designed to reduce or eliminate direct impacts to known ethnographic sites. These impacts would be considered moderate because they could potentially result in a perceptible degradation of a Native American site with moderate to high historic data potential. These sites, however, would to a greater or lesser extent, depending upon their location and nature, remain susceptible to such impacts as natural deterioration, inadvertent damage by human activity, and vandalism. Erosion control, restricted access, visitor education, and other measures would be implemented to ensure that these impacts are kept to negligible levels supporting the Native American Indian participation in the interpretation of ethnographic resources would continue to expand the interpretation of the ethnographic

resources of the SMMNRA. Such actions would enhance the ability to protect and preserve ethnographic resources and continue the traditional cultural practices, as well as increase appreciation of traditional cultures.

► **Component Actions**

Component actions under the preferred alternative include the following:

1. ***Distribution of land with the intended use intensities: low 80 percent, moderate 15 percent, and high 5 percent.*** The higher percentage of land designated as low intensity use, and the lower percentage of land designated for high intensity use, would increase the protection afforded to cultural resources by decreasing impacts associated with visitor activities compared to the no action alternative. No mitigation efforts for historic properties are necessitated by this component action. Devices used to limit visitor access would stress the protection of the natural and cultural resources of the SMMNRA. Inventory of Federal lands under Section 110 of the NHPA would continue, however, while compliance with Section 106 of the NHPA, consisting of inventory, evaluation, and impact assessment, would be followed for all planned undertakings in these areas.
2. ***Boundary studies would be conducted for the western escarpment of the Santa Monica Mountains and in the Simi Hills area contiguous with Cheeseboro and Las Virgenes Canyons.*** These areas would be included in low intensity use. Some of these areas, such as The Simi Hills Historic Ranching District and Cheeseboro Canyon, are cultural landscapes. Including these areas within the SMMNRA would extend the protection provided to cultural resources under federal ownership. These areas

would also serve as buffers against adjacent development. No mitigation efforts for cultural resources would be necessitated by this component action. Inventory of cultural resources in acquired lands would take place in compliance with Section 110 of the National Historic Preservation Act.

3. ***Boundary adjustment studies would be conducted for Las Virgenes Reservoir, Ladyface Peak, Marvin Braude Mulholland Gateway Park, Burro Flats, Castle Peak and Stone Canyon.*** These areas would be included in moderate intensity use. Some of these areas, such as Ladyface, Burro Flats, Castle Peak, and Calleguas Creek, are traditional cultural properties affiliated with the area. The addition of these areas would extend to these cultural resources and cultural landscapes the protection offered by Federal ownership. Based on the stated proposed action, no mitigation efforts for historic properties are necessary. Inventory and evaluation of cultural resources on newly acquired acreage would take place in compliance with Section 110 of the National Historic Preservation Act.
4. ***Steelhead trout would be reintroduced in Calleguas Creek.*** Local Native American Indian groups have identified Calleguas Creek as an important cultural landscape. The introduction of steelhead trout in Calleguas Creek would not adversely impact cultural resources or the cultural landscape. No mitigation efforts would be necessary.
5. ***The Mugu Lagoon Visitor Education Center would be located at the western-most end of the recreation area off of PCH.*** The proposed site would be located in a previously disturbed area. A historic Native American Indian settlement of

considerable cultural significance, however, is located in the vicinity and unidentified components of this site might be present in the proposed site area. If intact but unidentified subsurface deposits are present, construction might impact them during the course of ground-disturbing activities. The impact would be considered major because it would affect an entire site with high archeological data potential. As a result, further development in the area would be of concern to Native American Indians. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed prior to the finalization of plans associated with this facility, to assess the potential to adversely impact archeological deposits in this area. If such deposits are identified, mitigation through avoidance or data recovery would be undertaken. Because the presence or absence of resources has not been determined, the intensity of this impact cannot be determined at this time.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. If unknown resources are identified at this time, construction would be halted until the significance of the find is determined.
- ✓ To assist with visitor education, the Mugu Lagoon Visitor Education Center would include information on traditional lifeways and the significance of the settlement of Muwu to the cultural history of the area.

6. **Circle X Ranch would include a primitive overnight education camp with expanded facilities for group camping.** The facilities would offer improved access to

backcountry recreation trails. Circle X Ranch is near a historic Native American Indian settlement. Expansion might require land clearing and/or construction that might directly impact cultural resources through disturbance of archeological sites, erosion or other means. In addition, overnight use of these areas increases the potential for impacts to historic properties, primarily through increased access, which could result in a higher potential for inadvertent damage and vandalism. Such impacts, however, are expected to be negligible because they would be localized and would be focused outside of the cultural site boundary. The following mitigation measures recommended:

- ✓ Prior to the implementation of construction, the APE for cultural resources would be defined, a record review conducted, and a pedestrian survey completed by a qualified archeologist. Mitigation measures, including avoidance or data recovery, would be proposed if resources are identified, and the SHPO would be afforded the opportunity to consult on measures for cultural resources protection and mitigation of adverse impacts.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground disturbing construction. In the case of any unanticipated discoveries, all ground-disturbing activities in the vicinity would be stopped until the significance of the find is determined.
- ✓ Management plans would incorporate measures to reduce or eliminate indirect impacts to cultural resources to negligible levels. Such measures might include restrictions on access, signage, visitor education, or data recovery. A



“determination of eligibility” would be proposed in accordance with section 106 of NHPA. If cultural resources were found to be eligible for the register, all facility projects would be performed in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* (1995).

7. The campground at Leo Carrillo State Beach would be rehabilitated to integrate the campground with natural riparian processes

– The rehabilitation of natural riparian processes could enhance the value of the area as a cultural landscape. However, historic properties might be impacted if rehabilitation involves subsurface disturbance. Such impacts, however, are expected to be negligible to minor because of the low probability of such impacts affecting a site with high data potential. No mitigation would be required for activities that do not involve ground disturbance. The following mitigation measure is recommended:

✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of the Leo Carrillo State Beach property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures would include avoidance or archeological data recovery.

8. Paramount Ranch would include facilities for a film history education center. Parking and circulation would be improved.

Paramount Ranch is a historic property and has been determined a significant cultural landscape eligible for listing on the National Register of Historic Places. Any construction or reconstruction might cause the alteration, removal, or destruction of original materials that

contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is required:

✓ Complete the Cultural Landscape Report.

✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified professional, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through HABS/HAER documentation, reconstruction using historically appropriate materials, or similar measures. Those measures would be called out in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* (1995).

9. A scenic coastal boat tour would be run by a concession with docking points located at Santa Monica Pier and Malibu Pier– The Santa Monica Pier is the site of Loeff’s Hippodrome, which is listed on the National Register of Historic Places. As noted above, docking for a boat tour at this location would result in an extremely small increase in the number of visitors to the site and is therefore not expected to impact Loeff’s Hippodrome. No mitigation is required for this action.

10. The National Park Service and California State Parks would have a jointly operated administration and education center located at Gillette Ranch.– Gillette Ranch is a historic property located near a historic Native American Indian settlement. Any construction to accommodate this

component action might cause the alteration, removal, or destruction of materials contributing to its historic significance. Depending upon the nature and extent of new construction and the data potential of affected sites, resulting impacts to this property could be moderate to major in intensity. It is likely, however, that joint management activity could also promote the more effective management of the cultural resources of the recreation area. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed by a qualified archeologist prior to the finalization of plans associated with this facility, to assess the potential to adversely impact archeological deposits in this area. If necessary, mitigation of impacts to archeological resources through avoidance or data recovery would be undertaken. Construction activities affecting structural or landscape features would be carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). As a result, these impacts would be reduced to negligible or minor levels.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. In the event that undisturbed resources are encountered, construction would be halted until the significance of the find is determined. Concerned historic preservation groups would be consulted and their input incorporated into the management plan for this facility. Cultural landscapes would be assessed and evaluated by an historical landscape architect or landscape historian.

11. 415 PCH (Marion Davies Home) located near the Santa Monica Pier would serve as an eastern gateway to recreation area and would provide exhibits interpreting the evolution of southern California coastal culture.

– The Marion Davies home is a historic property. Any construction or rehabilitation might cause the alteration, removal, or destruction of original materials that contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is required:

- ✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through HABS/HAER documentation, reconstruction using historic materials, or similar measures. Construction would be carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), ensuring that these impacts are kept to negligible to minor levels.

12. A visitor information site would be located within Los Angeles International Airport.

The proposed site is already developed and no impact to historic properties is anticipated. No mitigation efforts for historic properties are necessary.

13. A visitor information site would be located in downtown Los Angeles on Olvera Street.

– The proposed site is already developed and no impact to historic properties is anticipated. No mitigation efforts for historic properties are necessary.



14. An expanded educational day camp program would be established at the William O. Douglas Outdoor Education Center located in Franklin Canyon.

– If this expansion involves no subsurface disturbance to enlarge or improve facilities, no impacts to cultural resources are anticipated. However, Franklin Canyon is a cultural landscape and a historic Native American Indian settlement has been reported in the vicinity. Should expansion require land clearing and/or ground disturbance, those activities could moderately impact elements of integrity contributing to the significance of the cultural landscape and/or directly affect historic properties through disturbance of archeological sites, erosion, and other means. The following mitigation measures are recommended:

- ✓ A cultural resources inventory and evaluation, including subsurface exploration, would be completed by a qualified archeologist prior to the finalization of plans associated with this facility, to assess the potential to adversely impact archeological deposits in this area. If such resources are identified, mitigation through avoidance or data recovery would be undertaken.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. In the event that unidentified resources are discovered, construction would be halted until the significance of the find is evaluated. Cultural landscapes would be assessed and evaluated by an historical landscape architect or landscape historian.
- ✓ Concerned historic preservation groups would be consulted and their input incorporated into the management plan for this facility

15. Mulholland Drive, Pacific Coast Highway and Malibu Canyon Road would be designated as scenic corridor

– Road and parking area improvements might be necessary and the construction activities associated with these actions could directly affect cultural resources. Such impacts, however, are expected to be negligible. Designation as scenic corridors would also likely generate increased traffic, which could create major impacts such as deterioration of setting, feelings, and other aspects of integrity. These impacts are also expected to be negligible. These impacts are expected to be negligible due to the existing disturbed character of the area and the limited additional access that would occur to undisturbed cultural sites. The following mitigation measure is recommended:

- ✓ All road improvements would be preceded by a cultural resources investigation and evaluation conducted by a qualified archeologist, inclusive of inventory, evaluation, and impact assessment. If resources are identified, mitigation measures would include avoidance or data recovery. Opportunities to protect the resource from other impacts could include traffic volume control, parking control, and expanded transit options. As a result, these impacts could be reduced to negligible levels.

CUMULATIVE IMPACTS

The preferred alternative would result in similar negligible cumulative impacts to cultural resources as discussed under the no action alternative.

CONCLUSIONS

The preferred alternative offers a very high level of protection to historic properties, reserving 80 percent of lands for low intensity

uses, 15 percent for moderate, and 5 percent for high. This is comparable to the preservation alternative, slightly higher than the education alternative, and substantially higher than the no action or recreation alternatives. Component actions are somewhat more intensive than the no action and preservation alternatives, but reduced by comparison to the education and recreation alternatives. As a consequence, there would be a notable decrease in the potential number of cultural resources that would be affected by project impacts and required mitigation. The potential for unintended damage without mitigation would also decrease. Impacts to cultural resources from the preferred alternative would be minor with the implementation of the mitigation measures described in the analysis of impacts section.

VISITOR EXPERIENCE

ANALYSIS

Under this alternative, the current range of visitor experiences offered at the SMMNRA would be maintained, but the percentage of land managed for low intensity would increase substantially. Increased traffic noise and crowding associated with new facilities would be concentrated around the park perimeter. Overall, major beneficial effects on visitors who seek solitude are anticipated because substantially larger areas would be dedicated to low intensity use, changing the character of much of the park. Others who seek a more social and developed experience would also find additional opportunities under the preferred alternative. The development of visitor facilities could result in moderate to major beneficial effects by allowing more visitors to see the resources of the park through exhibits and educational programs that currently don't exist, noticeably enhancing structured aspects of visitor experience. Restrictions on uses of

areas currently managed for moderate intensity use may have moderate adverse impacts on visitors that enjoy multi-use trails and camping, as such areas decrease. The availability of similar activities in other use areas reduces this impact to moderate. Impacts could be reduced to minor by improving existing trails, and creating new trails and camping areas in remaining moderate intensity use areas.

Under the preferred alternative, educational programs designed to encourage sustainable use of park resources by visitors would be increased. Implementation of such programs would likely have moderate beneficial effects, encouraging visitors to responsibly enjoy resources in the SMMNRA while decreasing visual and auditory intrusions (e.g., vandalism, littering, high-decibel music) that degrade visitor experiences.

Visitation to the SMMNRA by non-local tourists might increase due to advertising that would be implemented at the Los Angeles International Airport and other locations around Los Angeles. These tourists might contribute to traffic congestion and noise within the recreation area through the disproportionate, added use of private automobiles. Tourist use of SMMNRA would likely be focused on highly advertised areas that typically receive higher visitor use in general. Because this increase in visitation would be focused in areas that already experience high use, the impact would be only slightly perceptible, and would be considered a minor negative impact. These impacts would be reduced by encouraging visitor use during less busy times and guiding visitors to high use areas.

Beach areas and parking would remain crowded under this alternative. The crowding would be reduced by limiting opportunities for parking outside of designated parking areas and providing adequate parking at, or



alternative transportation to, high intensity use areas. However, scenic and educational experiences in coastal areas of the SMMNRA would increase following implementation of boat tours between the Santa Monica Pier and the Malibu Pier, the Malibu Visitor Contact Station, and the Mugu Lagoon Visitor Center. The addition of visitor orientation areas to the park could improve the experience by creating a focus for visitors. Each of the orientation areas would feature different exhibits and themes depending on their location and would add dimensions not experienced now. One example is the use of 415 PCH to interpret the history of the southern California coastal and film culture and the terminus of Route 66. Expanding the facilities at Paramount Ranch to include a film history education center and museum would give another dimension to visitation to that site, allowing visitors a “behind the scenes” experience. The boat tours and orientation areas offer new opportunities that may present a moderate to major beneficial effect on visitor experience since they would noticeably change the character of existing park facilities and would increase activities available at the SMMNRA.

A tour shuttle would travel a scenic loop, and connecting major points of interest in the park would possibly provide a moderate beneficial effect as visitors could view the park and relax, as opposed to driving their own vehicles. Recreational users would be able to park in designated lots and not face the difficulty of finding parking in the limited spaces throughout the recreation area. This would have an overall positive long-term effect.

In addition, the reintroduction of sensitive species, including steelhead trout, would provide increased opportunities for visitors to learn about the native flora and fauna that once inhabited much of the greater Los Angeles area. Increased interpretive

resources throughout the SMMNRA, related to cultural properties (e.g., pictographs, ranches), would increase slightly, adding additional educational value to park visits. These educational opportunities related to natural and cultural resources are expected to have moderate beneficial effects on visitor experience because they would substantially increase the range of activities available at the recreation area and would be clearly detectable.

CUMULATIVE IMPACTS

Though review of available environmental analysis documents for the current and planned projects described in the cumulative impacts methodology section did not identify significant cumulative impacts to visitor experience that would result from these projects, these projects would increase development, human presence and residential areas adjacent to and within the SMMNRA. As with all the alternatives, overall park visitation would increase with population growth and increased tourism in the L.A. area. Park visitors would experience more crowding and noise and observe more resource impacts. For those who value a more primitive experience, these changes would have a moderate negative cumulative impact. The increased percentage of areas managed as low intensity would reduce cumulative impacts compared to the no action alternative.

CONCLUSIONS

The preferred alternative would maintain the existing range of recreational visitor experiences. Increasing the percentage of low intensity use areas would help ensure that visitors have the opportunity to experience quiet and solitude, as would boundary adjustments to include more undeveloped space. A boat tour along the coast would give visitors the opportunity to view the

recreation area from another perspective and learn about marine life. New opportunities would be available through visitor education facilities that would have a moderate beneficial effect on the quality of the visitor's experience. The beneficial visitor experience effects would be enhanced further by the mitigation measures discussed in the analysis of impacts section.

LAND USE AND SOCIOECONOMIC ENVIRONMENT

Land Use

ANALYSIS

The preferred alternative would preserve 80 percent of the natural systems present on recreation area lands and develop educational programs for public visitors and school systems. The majority of recreation area-related land uses and development would be removed and the land restored to its natural state. Certain fire access roads might also be abandoned and the land restored. Trails located in sensitive areas would be re-routed and the land restored. The Backbone Trail would be expanded and other trails retained in their current state. Moderate intensity area buffer zones would comprise an estimated 15 percent of the recreation area land and 5 percent would be allocated to high intensity area recreation area facilities. Compared to the no action alternative, areas managed for low intensity uses would be much more extensive, and would increase from approximately 30 to 80 percent of the SMMNRA area, as illustrated in Figure 6 – Preferred Alternative. In addition, land under high intensity management would decrease from 10 to 5 percent, although the number of facilities would increase from only three to 16 facilities. Moderate intensity areas would correspondingly decrease from 60 percent of the area to only 15 percent of the SMMNRA.

These shifts in proposed management areas would affect the land use impacts associated with the preferred alternative. However, because there is little difference in the inconsistency between low and moderate use intensity management areas with designated residential land uses, a number of inconsistencies remain. These inconsistencies are focused in the cities of Westlake Village, Calabasas, and Los Angeles, as well as both Los Angeles and Ventura Counties.

Because of the expansion of land under low intensity management, the preferred alternative would result in increased inconsistencies between locally designated residential areas (shown in Figure 14 – Land Use) and low intensity management areas. This impact is considered to be major, since residential development (even at low density) precludes many of the characteristics of low intensity management areas. For example, residential development alters the natural landscape and prevents or decreases a “sense of being immersed in a natural and wild landscape away from the comforts and conveniences of ‘civilization.’” Increases in this inconsistency would occur throughout portions of unincorporated Los Angeles County and the cities of Westlake Village, Calabasas, and Los Angeles.

Depending on residential development densities, inconsistencies between moderate intensity management areas and locally designated residential land use could be either moderate or major. Low density residential development could maintain a rural atmosphere that allows the emphasis to “be predominantly on the natural environment, but there would also be a sense of being near the familiarity, comforts, and convenience of ‘civilization.’” Higher density housing diminishes that sense of nature, and precludes most of the activities associated with moderate intensity management areas, as defined by the NPS. However, since



residential development of any density by nature decreases the sense of being surrounded by nature, the impacts associated with such development are considered moderate to major. Moderate to major impacts associated with such inconsistencies between residentially designated areas and moderate intensity management areas would decrease in the city and county and Los Angeles due to the shift of more land into low intensity management areas under the preferred alternative. The minimal areas of designated residential land in the Ventura County portion of the study area would shift from low to moderate use intensity management areas and would result in additional moderate to major impacts under the preferred alternative.

The land use inconsistencies between locally designated residential areas and low and moderate use intensity management areas could be partially mitigated by close coordination between NPS and local jurisdictions during land development policy and plan amendment processes to increase the consistency of land use management approaches.

High intensity management areas decrease in area under the preferred alternative, compared to the no action alternative, although the total number of proposed facilities increases. High intensity management areas under the preferred alternative would be surrounded by both designated open space and residential land, as described under the no action alternative. As discussed in the no action alternative impact analysis, high intensity management areas are inconsistent with residential development, and would result in moderate to major impacts, depending on the type of facility or use envisioned by the NPS and the surrounding residential development density.

Negligible to minor impacts would occur in high use management areas that are

already designated open space by local jurisdictions, depending on the focus of the open space area for urban recreation or resource protection. Negligible impacts would result from high use management areas if an open space area has the primary goal of urban recreation because such uses/facilities would not substantially detract from the existing use of the area. Additionally, more substantial impacts could be expected if an open space area is dedicated to resource protection, because additional development and/or use could diminish the role of the open space to protect natural resources. However, these impacts would remain minor since the high use intensity designation and facility development would only occur on already disturbed or highly used sites, or at the perimeter of the parkland, and would therefore not greatly decrease the value of the open space. In addition, high use intensity areas are not located adjacent to any locally designated habitat preservation areas, which minimizes the potential for impact to protected natural resources due to visitor use in high intensity areas or facilities. Activity within the SMMNRA would also be controlled, and would afford a higher level of protection than areas under local control. Access should be designed to direct visitor use away from areas primarily designated for resource protection in areas where high use intensity management areas and facilities overlap areas designated by local jurisdictions as open space (high intensity areas encompassing WODOC, Temescal Gateway Pak, Angeles District Headquarters, Rancho Sierra Vista/Satwiwa, Las Virgenes Canyon, and Ventura State Beaches).

A number of boundary studies are proposed under the preferred alternative along the edges of the SMMNRA. The preferred alternative suggests one boundary study for the southern portion of Agoura Hills east of Las Virgenes Reservoir and including

Ladyface Mountain, which could potentially result in major impacts due to similar inconsistencies between low intensity management areas and designated residential uses. Another boundary study is proposed for the west end of the SMMNRA to buffer some of the impacts of the CSUCI expansion and associated development, although only one facility (which is identified as a high intensity management area) is proposed for the additional area. The facility would be a research and information facility associated with the existing CSUCI campus, and would be located on the outskirts of the commercially designated campus area, just within an open space designation. These impacts are expected to be minor since, while inconsistencies exist, the area is located adjacent to an existing commercial designation. One boundary study suggested to include the southeast quadrant of Calleguas Creek watershed within the SMMNRA would extend the boundary into the city of Thousand Oaks, and would result in potentially moderate to major impacts due to inconsistencies between residentially designated land and moderate intensity management areas, as described above. A fourth boundary study is proposed for the area at the Marvin Braude Mulholland Gateway Park in the city of Los Angeles, which would extend the boundary further into the Encino/Tarzana community. Moderate to major impacts could occur with a boundary expansion in this location due to similar inconsistencies between residentially designated land use and moderate intensity management areas. Until the NPS acquires additional land, all of the impacts due to land use inconsistencies would likely continue with the currently designated residential and open space land uses.

No impacts associated with commercial designations would occur with implementation of the preferred alternative

because the few commercially designated areas within the boundary are located within the existing urban landscape, which is not actively managed by the NPS. Impacts associated with industrial and agricultural designated land would be negligible because locally designated industrial and agricultural areas are nominal within the SMMNRA boundary.

CUMULATIVE IMPACTS

Cumulative impacts are similar to those described under the no action alternative and are considered major. Although the preferred alternative proposes a number of additional park facilities, they would be located throughout the project area and would not contribute to the overall development of the region.

CONCLUSIONS

This alternative would emphasize the preservation of existing natural environments. Land acquisition would result in less intense use of lands not owned by the administering agencies. Various moderate and major impacts with the preferred alternative would occur due to inconsistencies between NPS prescribed low intensity management areas and local land use plans. These inconsistencies would be considered a major land use impact, and are greater in extent than those expected under the no action alternative. Additionally, inconsistencies between moderate and high intensity management areas would result in moderate to major land use impacts throughout the study area. Minor impacts would occur in scattered areas throughout the SMMNRA due to the potential location of facilities within land currently designated as open space.

In general, this alternative would have greater land use impacts associated with residential areas encompassed by low intensity management areas, but these

impacts would be somewhat balanced by the corresponding decrease in impacts associated with moderate intensity management areas located in residential areas. Decreases in high intensity management areas would lead to a potential reduction in impacts associated with residential and open space lands, although these impacts would still be considered moderate to major, or negligible to minor, respectively.

The mitigation measures discussed in the analysis of impacts section would reduce the expected impacts associated with the preferred alternative.

Population, Housing and Employment

ANALYSIS

Population, housing and employment projections for Ventura and Los Angeles Counties were used to review the preferred alternative. The projections were based on the Southern California Association of Governments Regional Comprehensive Plan (RCP) and include regional growth forecasts disaggregated to counties, subregions, cities and small geographic areas. The model used to produce small area forecasts allocates growth to different areas based on their relative attractiveness. These forecasts were reviewed by local planning agencies (i.e., cities and counties) for consistency with zoning and local growth constraints (e.g., topography), and adjusted to represent the best estimate of future growth.

The general plans of the participating local planning agencies identified the steep terrain of the Santa Monica Mountains as potentially undevelopable and often designated such land “open space” or, in some cases, the lowest residential densities. Growth and development opportunities lie the flat lands where vehicular access and public services are amply provided or easily extended. Accordingly, local planning

agencies use general plan policy and zoning regulations to discourage future residential, commercial, industrial and institutional development on terrain with physical constraints and natural resource value. This local growth management approach is reflected in the adjusted, published forecasts. In addition, additional facility development would contribute minimal employment opportunity within the SMMNRA and surrounding regions relative to the number of jobs in the region. Negligible impacts to population, housing, or employment would be expected because the number of jobs that would result from this alternative would not result in a detectable change to the employment opportunities in the region. For these reasons, selection of the preferred alternative is not likely to substantially alter local and regional population, housing and employment growth forecasts.

CUMULATIVE IMPACTS

Similar to the no action alternative, no cumulative impacts would be anticipated with implementation of the preferred alternative.

CONCLUSIONS

The preferred alternative would not result in a change in population or housing within the SMMNRA or surrounding region. In addition, additional facility development would contribute minimal employment opportunity on a regional basis. No mitigation measures are required.

Transportation

ANALYSIS

► Regional and Local Highway Network

In the preferred alternative Mulholland Highway west of Malibu Canyon Road, Malibu Canyon Road, and PCH west of Malibu would be designated as scenic

corridors. Applying the scenic corridor designation to these corridors would not cause any significant increases in traffic volumes on any of the major corridors within the study area.

All of the roads within and near the SMMNRA would continue to provide for visitor access. Commuter traffic patterns would not change as a result of actions taken in this alternative. Traffic volumes and the level of service provided by the roads in the SMMNRA would be similar to the no action alternative, where most of the major routes within and near the SMMNRA would be operating at capacity by the year 2015. The secondary and minor roads within the SMMNRA would continue to operate at acceptable levels of service.

The actions taken as part of this alternative would not produce any regionally significant traffic impacts. The significant traffic impacts occurring as a result of this alternative would be localized around the proposed education facilities. The traffic related impacts resulting from major facility additions or modifications included as part of the preferred alternative are described in Table 24.

Under the preferred alternative the NPS would continue their policy of encouraging and supporting the removal of street lighting and power poles from the corridors within SMMNRA.

■ **Public Transit**

A tour shuttle would be in operation connecting major points of interest in the park. Visitors would be able to park at designated lots and ride the shuttle to destinations. The shuttle transportation system would have a beneficial impact on traffic in the park.

This alternative also includes actions at several locations that would help to promote transit use by creating new facilities that

would be designed to accommodate buses, and improving some of the existing facilities so that they could accept visitors arriving by bus. These locations include: the Mugu Lagoon Visitor Center, Circle X Ranch; Paramount Ranch, Gillette Ranch, the Northern Gateway Visitor Center, and the Malibu Bluffs Visitor Center, White Oak Farm, Santa Monica/Pacific Coast Highway Visitor Information Site, and the Franklin Canyon Education Day Camp. These improvements would make transit service to many of the recreational destinations within the SMMNRA transit accessible. The designation of the several routes as scenic corridors would also promote tour bus activity.

Under this alternative the NPS would continue the policy of encouraging and supporting others in the development of additional public transit options for visitors to the SMMNRA and commuters passing through the SMMNRA.

■ **Parking**

New paved roadside pullout parking areas would be created along the routes that would be designated as scenic corridors. These new parking facilities would allow visitors to stop and enjoy the views and other recreational activities.

New paved parking areas that include space for bus parking would be constructed at the following locations: Mugu Lagoon Visitor Center, Circle X Ranch Camp, Paramount Ranch, Gillette Ranch, White Oak Farm, Northern Gateway Visitor Center, Malibu Bluffs Visitor Center, Santa Monica/Pacific Coast Highway Visitor Information Site, and the Franklin Canyon Education Day Camp.

CUMULATIVE IMPACTS

The modifications proposed in the various action alternatives would only generate very



Table 24

PREFERRED ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Mugu Lagoon Visitor and Environmental Education Center	The proposed facility would not generate any measurable amount of new vehicle trips, although it would generate several new bus trips per day. The proposed facility would have direct access from PCH including designated left and right turn lanes. A minor amount of traffic congestion would be created by traffic turning into and out of the site.
Expand Circle X Education Camp	Expansion of the camp would result in a minor number of new vehicle trips in this portion of the SMMNRA including one or two new bus trips. This expansion would create a negligible increase in traffic volumes on Little Sycamore Canyon Road and Yerba Buena Road.
Redesign Leo Carrillo Camp Ground	This action would not generate any new vehicle trips and would change the exiting traffic patterns in the area.
Paramount Ranch Film History Education Center	The proposed facility improvements are expected to increase the number of visitors who stop at this location. It would create a minor increase in the traffic volumes on Cornell Road and the central portion of Mulholland Highway. It would also increase the amount of turning movements at the Cornell/Mulholland intersection. This increase in traffic would not change the Level of Service provided by the adjacent corridors nor the Cornell/Mulholland intersection.
Las Virgenes Environmental Education Center	This new facility is proposed to be constructed as part of a new housing development bordering the Park in Las Virgenes Canyon. This new facility would not generate any new vehicle trips into the area and would not create any noticeable traffic impacts.
Gillette Ranch Joint Administrative and Environmental Education Center	This new facility would create a redistribution of the administrative trips that currently occur at the State Park and NPS headquarters. All of the NPS administrative trips that occur in the Thousand Oaks area would now occur on the roads leading to the Soka Site. The redistribution of the State Park administrative trips would not dramatically change the traffic patterns in the area. The new Education Center would generate a minimal amount of new trips into the area including several bus trips per day. The net result of this action would be a minor increase in traffic volumes on Las Virgenes and Malibu Canyon Roads, and a moderate increase in traffic on a short segment of Mulholland between the intersection of Las Virgenes and the entrance to the Soka site. There would be an increase in the turning movements at the Las Virgenes/Mulholland intersection. This change would not result in a change in the Level of Service provided by the intersection. The traffic changes would not create any notable traffic congestion. The change would eliminate the turning movements that currently occur on Malibu Canyon Road at the existing State Park Headquarters site thereby reducing traffic congestion in that area.
Malibu Bluffs Visitor Center	The creation of this new visitor center would create a small number of new trips into the area resulting in a negligible increase in traffic volumes on PCH. Activity at the new center would increase the turning movements at the signalized intersection of Malibu Canyon Road and PCH, but would not result in a change in the Level of Service provided by the intersection.

PREFERRED ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Scenic Coastal Tour	The coastal boat tour would begin in the Malibu Pier area and travel along the coast of the SMMNRA. Visitors taking the tour would park their vehicles in existing parking areas near the Pier. This tour would generate a minimal amount of new vehicle trips into the area. The tour would result in a negligible increase in traffic volumes on PCH. Turning movements into parking areas near the pier and on-street parking maneuvers along PCH would increase during the times when the tour is in operation. This action would cause a minor amount of traffic congestion during times before and after the tour when the visitors are attempting to enter or exit the parking areas.
Franklin Canyon Education Day Camp	This action would involve expanding the facilities and programs at the existing camp. This would result in one or two additional bus trips into the area per day during times when the camp is active. This would create a negligible increase in traffic on Franklin Canyon Drive and portions of Mulholland Drives. The overall traffic impacts would be negligible.
Santa Monica/ Pacific Coast Highway Visitor Information Site	This new facility would have a new parking area that would accommodate regular passenger vehicles and several buses. The presence of this new facility would not create any new trips into the area, although it would generate turning movements at the access location on PCH. PCH consists of six travel lanes and a center turn lane in the vicinity of the proposed site. As part of this action the center turn lane would be converted into a designated left turn lane for vehicles entering the facility. Vehicles turning into and out of this new facility would create additional traffic congestion on PCH in the vicinity of the site.
White Oak Farm History Museum	This new facility would generate a negligible amount of new traffic into the area including one or two bus trips per day. This action would not create any measurable traffic congestion or impacts.
LAX Visitor Contact Site	This new visitor information center would be located within the terminal at LAX International Airport. This new facility would not generate any new traffic nor create any traffic congestion problems.
Olvera Street Visitor Contact Station	This new visitor contact center would not generate any new traffic nor create any traffic congestion problems.

small traffic volume increases. These slight increases would not create measurable amounts of traffic congestion or other related traffic impacts.

CONCLUSIONS

It may be desirable at some proposed visitor use sites to provide a designated left turn lane on the adjacent roadway to minimize traffic conflicts and make site access easier.

Public Services and Utilities

ANALYSIS

Public Services

Under this alternative, the demand for fire protection services would be similar to, or slightly higher than current service demands. The preferred alternative proposes the construction and operation of several park facilities (e.g. Mugu Lagoon Visitor Education



center, Circle X Ranch, and Leo Carrillo State Beach Environmental Education Center). According to the VSS and Los Angeles and Ventura Counties, who provide fire protection and emergency response services to the SMMNRA, the development of the new and modified park facilities could be served with no need for additional fire protection facilities or personnel. With respect to different management intensity areas (changes in land use policies) proposed as part of this alternative, approximately 80 percent of the park area would be designated as “low intensity” as compared to approximately 30 percent with the current conditions. The increase in low intensity areas could be perceived as more “fire-defensible” than current conditions. Moreover, with the increase in low intensity areas, emergency events could be expected to decrease.

Based on the availability and capability of existing fire protection and emergency response systems to service the new park facilities, coupled with an expectation that a change in land use policy (with a greater emphasis on low intensity areas) could result in a potential decrease in emergency events, only minor impacts to fire protection services are expected with this alternative. These impacts would be mitigated through increased fire awareness for park visitors, including signage and public information, and limiting storage of combustible, flammable materials onsite. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible impacts.

Police protection services would be expected to remain similar to current service levels with implementation of the preferred alternative. As described above, a change in land use policy (with a greater emphasis on low intensity areas) could result in a potential decrease in emergency events and consequently police protection needs.

Based on the type of new park facilities, a significant demand on existing police protection services would not be expected and only minor impacts would be expected. These impacts would be mitigated through NPS VSS consultation with the Los Angeles and Ventura County Sheriff Departments to ensure adequate police protection services. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible impacts.

Future development would be required to examine the potential increase in demand for fire and police protection services, in conjunction with subsequent environmental review.

■ **Water/Wastewater**

The preferred alternative proposes the development of several park facilities that would require an increase in potable and non-potable water demands. While the precise rate of water consumption for these facilities is not known, it is estimated that only a relatively small increase in water demands compared to existing water demands would be required to support the proposed land uses and facilities. Based on discussions with the LVMWD, adequate water supplies and facilities currently exist to support the projected water demands of this alternative. In some cases, groundwater wells could also supply potable water. With respect to wastewater services and facilities, the LVMWD could provide wastewater service to the new park facilities within the SMMNRA. Based upon the expected wastewater generation rates as part of the preferred alternative, the LVMWD facilities have adequate capacity and facilities to support this alternative. Alternatively, on site sewage disposal systems could be used for most of the facilities. Based on the available capabilities provided by LVMWD, only negligible impacts to water and wastewater

services are expected with the preferred alternative. These impacts could be further reduced by providing onsite groundwater wells, water storage and wastewater disposal systems as necessary during facility planning stages. Future development would be required to examine the potential increase in demand for water and wastewater services, in conjunction with subsequent environmental review.

► **Waste Management**

Under the preferred alternative, the level of waste management service would be expected to increase slightly from current generation rates. According to Los Angeles County, which operates the Calabasas Landfill, adequate solid waste capacity is available. Based on the relatively small amount of solid waste generated as part of this alternative, plus the available capacity of regional landfill facilities, only negligible impacts to waste management services and facilities would be expected as a result of this alternative. These impacts would be further reduced through identifying the location of the nearest solid waste facility with capacity to handle additional waste flow and confirmation of available solid waste capacity for each facility at the planning stage.

► **Energy**

As discussed in the energy section of the Affected Environment chapter, energy resources applicable to this analysis include natural gas, electric energy and gasoline. The preferred alternative would result in a relatively small increase in electric and natural gas consumption. The amounts of fuel used to implement this alternative would be minimal when compared to the consumption rate of the entire Los Angeles Basin. Moreover, the use of energy for facility construction would cease at the end of construction activities. Adequate electric and natural gas transmission facilities and capacity is available for land uses and

facilities associated with this alternative. Based on the available facilities and adequate capacity, only negligible energy impacts are expected as a result of this alternative. These impacts would be further reduced through minimizing energy consumption on park lands, confirming availability of energy supply from local utilities, and possibly producing alternative energy supplies onsite (i.e., solar or individual generators).

CUMULATIVE IMPACTS

Cumulative impacts identical to those discussed under the no action alternative would occur with implementation of the preferred alternative and would remain significant for public services and solid waste capacity, and minor for water supply and energy.

CONCLUSIONS

The preferred alternative would result in potentially minor impacts to fire and police protection services. Negligible impacts to water, wastewater, solid waste and energy would also occur. The mitigation measures discussed above would further reduce the level of impacts associated with the preferred alternative.

UNAVOIDABLE ADVERSE IMPACTS

Various negligible to minor adverse impacts have been identified after mitigation for soils and geology, water resources, flood plains, biological resources, paleontology, cultural resources, visitor experience, employment, and public services and utilities. These impacts are summarized in the "Analysis of Impacts" section in each resource discussion. The impacts are not expected to have an overall effect on the respective resources. Moderate to major impacts identified for the preferred alternative were related to visitor experience, and land use.

Increased visitor use in areas where new facilities would be developed is expected to cause increased traffic, crowding, and noise. This may have moderate adverse impacts to visitors that prefer to experience quiet and solitude.

Inconsistencies in locally designated land uses and NPS prescribed management areas would result in moderate and major adverse impacts to land use. Major adverse impacts would occur where low use management areas overlap areas designated for residential development. Moderate to major impacts occur where moderate and high intensity use areas overlap with residential areas.

Irreversible/Irretrievable Commitment of Resource

There would be minor irreversible or irretrievable commitments of biological resources and cultural resources. Commitments would come from vegetation, wildlife habitat, or archeological resources lost to development of permanent facilities, and on-going maintenance of roads and trails.

Impacts identified for land use would involve permanent inconsistencies once areas designated for inconsistent development under local land use plans are developed. The management areas designated by NPS, however, would not result in irreversible/irretrievable commitment of resources because local land use decisions would continue to control development of property not owned by NPS. The preferred alternative would encourage limited short-term, primarily non-consumptive, uses of biological resources in the vicinity of developed facilities. These uses do not come at the expense of long-term productivity. Because this alternative provides for a minimal amount of short-term uses of the SMMNRA, the constraints in this alternative on short-term uses would enhance the long-

term productivity of the area to a higher level than the no action alternative. No other disciplines would be affected.

Preservation Alternative

NATURAL RESOURCES

Soils and Geology

ANALYSIS

► Soils

The preservation alternative would be the most beneficial of all alternatives analyzed with respect to soils and geology. Seven facilities would be added or modified in previously disturbed sites in compliance with environmentally sensitive criteria. The seven new facilities include three in the western portion of the SMMNRA: Mugu Lagoon Visitor Center, CSUCI Research and Information Facility, and redesign of the Leo Carrillo campground to be environmentally sensitive; three in the central portion: Paramount Ranch Film History Center, Gillette Ranch Joint Administrative and Environmental Education Center, and Malibu Bluff Marine Visitor Center; and one in the eastern portion: William O. Douglas Outdoor Classroom. There might be small areas of short-term, moderate adverse impacts from these activities due to cut and fill, grading, fuel management zones, and paving requirements, but not nearly to the extent under the preferred, education, and recreation alternatives, which all include more facilities. The extent of impacts from facilities development would be similar to the no action alternative. These impacts are considered minor or moderate because construction sites would be small and localized, erosion would be limited to construction areas, and construction

activities would be intermittent and temporary in nature. If these impacts occur in areas containing non-erodible soils, the effects would be perceptible, although their presence would not have an overall effect on soil resources in the SMMNRA. If, however, such impacts occur in areas with erodible soils, a noticeable effect on area soil resources could occur and moderate impacts would result.

Visitor use would be reduced in the preservation alternative, which would lower the risk and extent of potential soil erosion and damage to vegetation. Fewer visitors would reduce the risk of accidental or arson-caused fires, but fire could still pose a hazard in the intensely used areas. Impacts from visitor use are expected to be minor and continual. Fire management, fire suppression, and trail maintenance might create moderate, long-term adverse impacts on soil profiles and erosion. These effects are expected to be minor to moderate because they would occur intermittently and temporarily due to emergency fire suppression activities or unexpected fires and would be limited to affected areas. Erosion due to visitor use would also be limited to the immediate area. Such impacts would be minor in areas with non-erodible soils or low intensities of visitor use because, although perceptible impacts may occur to soil resources due to slight erosion, these impacts would not have an overall effect on soil resources within the SMMNRA. Moderate impacts would be more likely to occur in areas with erodible soils or high visitor use due to the increased soil erosion. Shortening or eliminating some of the scenic corridor roads in the eastern portions of the SMMNRA would reduce the risk of fires and subsequent erosion.

Erosion control measures such as sediment retention ponds, silt fencing, or slope stabilization techniques would be included in all facility development-specific

plans and would be implemented for surface disturbing activities, such as facility construction or trail maintenance. Adverse impacts on soils from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning and enforcement. Visitor management and visitor education would be effective in minimizing many potential impacts. Fire clearance zones and the shortening or elimination of scenic corridor roads in eastern SMMNRA would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs, should be effective in reducing the likelihood of visitor-caused fires.

Beneficial effects of the preservation alternative include plans to remove selected recreation area-related development, eliminating some fire roads, re-routing and revegetating trails in or near sensitive resources, and removing some roads and restoring them to a natural condition or reconfiguring them as low impact trails. The removal of these developments and curtailing of visitor use in low intensity areas would allow for a decrease in soil erosion that would noticeably preserve area soil resources. This decrease would be anticipated to result in a moderately beneficial effect.

► **Geologic Hazards**

Unmitigated geologic hazards could impose potentially major long-term adverse impacts to public health and property after facilities development. Potential impacts resulting from geologic hazards would be limited to areas where facilities would be added. This represents a reduction in possible impact areas to seven facilities relative to the other alternatives that include up to 16 facilities. The principal hazards within the SMMNRA are ground shaking, landslides, debris flows, and ground failures resulting from

liquefaction. These impacts would be considered major because there would be a potential for substantial human safety risk and property loss.

The primary mitigation for geologic hazards relative to proposed facilities development remains the same for all alternatives. This would include the avoidance of geologic hazard zones through careful siting of facilities, and minimizing hazard impacts through careful design and construction practices. All grading and construction plans would be submitted to qualified technical staff within the administering agencies for geologic and geotechnical review prior to approval. Geotechnical and geologic hazard investigations would be conducted prior to project implementation with a focus on projects in areas of concern. Such areas include projects involving hillside terrain, proximity to active or potentially active faults, and areas of possible liquefaction. New facilities would be sited to avoid geologic hazard zones. New facilities and the modification of existing facilities would be designed and constructed in compliance with all applicable state and federal building code standards.

CUMULATIVE IMPACTS

Cumulative impacts to soil and geologic resources from the preservation alternative are similar to those described for the no action alternative and would continue to be minor, as identified in the listed project documents. Though fewer facilities would be developed under the preservation alternative compared to the no action alternative, proposed facility locations are dispersed throughout the SMMNRA and are not expected to change cumulative impacts. Increasing the proportion of areas of low intensity use would have a minor beneficial effect on the cumulative environment.

CONCLUSIONS

Direct and indirect adverse impacts on soils and geology in the preservation alternative would be the lowest of all alternatives analyzed. Impacts from facility development in this alternative are similar to the no action alternative and minor to moderate. With mitigation, impacts would be reduced to minor or negligible.

Potential beneficial effects would be greatest for the preservation alternative as compared to the other alternatives because the risk of fires and subsequent soil erosion would decrease throughout the recreation area.

Geologic hazards could impose adverse impacts on public health and property as a result of facilities development and would be reduced to a minor level with mitigation.

Soil resources and exposure to geologic hazards on privately held land would largely depend upon local enforcement of land use and building permits by other local agencies.

Water Resources

ANALYSIS

The preservation alternative would have the most beneficial effects on water resources within the SMMNRA. By placing more emphasis on the preservation of natural systems and by reducing the high-impact areas, the likely pollutant and physical impacts from this alternative are reduced.

There are however, some potential adverse impacts from the proposed facilities such as visitor centers and increased parking at trailheads. These impacts are similar to the impacts related to facility development described in the no action alternative. The development of these areas could adversely affect water quality. Impacts could include an increase in the runoff volumes and rates from these areas, which could potentially cause streambed and bank erosion, habitat scour,

and benthic smothering from the increased flows. Accidental spills of fuel and other automotive fluids could occur during the servicing of construction equipment and could impact waterways if these activities are conducted near waterways or without berms or other means of secondary containment. Use of unsealed tracks and roads may also result in erosion risk. Impacts from the use of unsealed tracks/roads and other activities associated with visitor use and trail management activities could be moderate. Septic systems that are not properly located, designed and constructed could also cause moderate short- and long-term impacts to surface or ground water. In addition, runoff from these areas could contain pollutants such as hydrocarbons and heavy metals from vehicles, which are common in road runoff. These pollutants could cause a moderate long-term impact on aquatic life in the streams and rivers. These impacts would be moderate because fuel or sewage spills could potentially affect the quality of waterways and water bodies within the SMMNRA. They would occur only intermittently and would be temporary, however, and would be limited to the area surrounding construction sites or septic tanks.

Direct short-term impacts could occur during construction phase of the proposed facilities. Clearing vegetation during construction and grading activities leaves soils exposed to erosion during rainfall, and these could impact the stream turbidity by increasing suspended sediment levels, which could affect light penetration and visibility in the streams. Sandbagging and other erosion control techniques would be applied during construction, and work would not be done in the rainy season. Impacts are anticipated to be short-term and minor. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would

be limited to the immediate area surrounding exposed open roads and construction areas.

The high intensity use areas within the recreation area would pose the most adverse impacts on the water resources. However, the preservation alternative provides fewer high intensity areas, and impacts would be reduced. Moderate long-term benefits are assumed for reduced pollution sources by increasing low intensity use and reducing high intensity use areas compared to the no action alternative.

The impacts of the increased parking areas in this alternative would be less than other alternatives. Pervious materials such as gravel are proposed for parking surfaces. This would reduce the quantity of runoff and pollutants generated from these areas. Erosion impacts would still occur, however.

Restoration of campgrounds in riparian areas could also result in moderate, short-term impacts to waterways while shifting of facilities is underway. Increased pathogen levels are also a potential moderate impact on the waterways from washroom facilities installed with septic systems. These systems would need to be designed and located away from the stream as much as possible to reduce impacts to a minor level.

Mitigation of these impacts would be applied in two phases, during construction, and longer term, more permanent measures. Mitigation during construction would be achieved through development of a construction stormwater management plan by a qualified professional, which would emphasize careful planning of activities to minimize soil disturbance. The plan would be prepared for all construction activities affecting one or more acres and would include best management practices such as temporary on-site water treatments, such as silt fences and sedimentation ponds. Fueling and servicing of construction equipment would not occur within 100 feet of a waterbody or drainage area unless

adequate spill control/containment is provided. Mitigation measures could also recommend on-site temporary water treatments, such as silt fences and sedimentation ponds. These measures could retain pollutants on-site and reduce the downstream impacts of construction.

Longer-term mitigation of potential impacts for the proposed facilities would include some treatment of the runoff from developed areas. This would reduce pollutants such as toxicants from vehicles or pathogens from restroom facilities from reaching the waterways. Restroom facilities would be planned to minimize the delivery of pathogens to groundwater and surface water. A qualified engineer would conduct a soils and engineering evaluation to support the location and design of all septic system repairs, upgrades and installations. The permanent mitigation measures would be planned and designed as part of the detailed design of the proposed facilities.

CUMULATIVE IMPACTS

Adverse long-term moderate cumulative impacts to water resources from the preservation alternative would be similar to those described for the preferred alternative. The negligible contribution to cumulative water resources for the no action alternative would be even smaller under the preservation alternative.

CONCLUSIONS

The preservation alternative would have the most beneficial effect on the water resources. By placing more emphasis on the preservation of natural systems and by reducing the high-impact areas, the likely pollutant and physical impacts from this alternative are reduced. Moderate impacts from proposed facilities such as the visitor center and increased trailhead parking could adversely affect the water quality of the water resources. Mitigation measures

discussed in the analysis of impacts section would decrease adverse impacts to a minor level.

Flood Plains

ANALYSIS

The major drainages/flood plains in the SMMNRA as described in the Affected Environment chapter include Calleguas and Malibu Creeks as well as the Arroyo Sequit stream. The preservation alternative proposes the following facilities and uses in the vicinity of these flood plains that either include modified/new structures or would increase the access to and extended duration of activities (especially over night) in the flood plains.

- Mugu Lagoon Visitor Center and CSUCI Research and Information Facility is located in the vicinity of the Calleguas Creek flood plain.
- Leo Carrillo State Beach campground redesign is located within the Arroyo Sequit stream flood plain.
- Gillette Ranch Joint Administration and Environmental Education Center and Malibu Bluff Marine Visitor Center are located in the vicinity of the Malibu Creek flood plain.

Additionally, this alternative includes areas designated as high intensity use that encompass the Calleguas and Malibu Creek flood plains, and the Arroyo Sequit stream flood plain.

The specific locations for the structures and use areas for facilities listed above have not been determined and it is not possible to identify the intensity or severity of the impacts at this time. Long-term moderate adverse impacts could occur by locating any one of the proposed facilities within a 100-year flood plain. This would be because increased access to the flood plain would

further increase the potential for loss of life or property as a result of the increased potential for flooding.

These impacts could be reduced through mitigation. During siting of structures and use areas for proposed facilities in the vicinity of a flood plain, an engineering evaluation would be conducted by a qualified engineer to identify the boundaries of the 100-year flood plain. Unless infeasible, structures and use areas would be located outside the flood plain boundaries. Facilities and trails within the 100-year flood plain would be closed 24 hours prior to a predicted 50-year, 24-hour storm even. NPS would use various warning systems and would patrol use areas within the flood plain prior to and during storms to assure that these areas are not occupied. For example, VCFCF has operated a flood warning system since February 1979. The system is called "ALERT", an acronym for Automated Local Evaluation in Real Time, which was developed by the National Weather Services. In addition, signage would be provided at the flood plain boundary on trails and access roads alerting park users that they are about to enter an area prone to flooding during wet weather conditions.

The preservation alternative includes changing intensity use designations from high or medium to low in the area of the Calleguas and Malibu Creek, and the Arroyo Sequit flood plains. This would reduce access to and duration of activities in the flood plain and would have moderate beneficial effects.

CUMULATIVE IMPACTS

The preservation alternative could contribute to cumulative flood-event impacts by potentially siting new structures and facilities within the 100-year flood plain.

CONCLUSIONS

The preservation alternative could result in potentially moderate adverse long-term impacts related to the above facilities and the

designation of high intensity use that encompasses the Malibu and Calleguas Creek flood plains, and the Arroyo Sequit stream flood plain. Moderate beneficial effects would result from changing current high and medium intensity use areas to low in the area of the Malibu and Calleguas Creek and Arroyo Sequit stream flood plains. The actual intensity of adverse impacts cannot be determined until the specific facility locations are determined. Mitigation measures, as discussed in the analysis of impacts section, would reduce the adverse impacts related to flood plains to minor.

Biological Resources and Wetlands

ANALYSIS

► Vegetation

Direct and indirect adverse impacts on vegetation in the preservation alternative would be the least damaging of all alternatives analyzed. Seven facilities would be added or modified in previously disturbed sites in compliance with environmentally sensitive criteria. These proposed new facilities would have direct impacts on previously modified or ruderal vegetation, and presumably would not affect native vegetation. The new facilities include three in the western portion of the SMMNRA: Mugu Lagoon Visitor Center, and redesign of Leo Carrillo campground to be environmentally sensitive; three in the central portion: Paramount Ranch Film History Center, Gillette Ranch Joint Administrative and Environmental Education Center, and Malibu Bluff Marine Visitor Center; and one in the eastern portion: WODOC. The specific biological resources affected by the development of projects within this alternative would be presented in separate NEPA documentation prepared for each project, although some general consequences might include the impacts discussed in the following paragraphs and sections.



There might be small areas of adverse impacts from these activities due to cut and fill, grading, fuel management zone, and paving requirements, but not nearly to the extent described under the no action, preferred, education, and recreation alternatives, which all include up to 16 new facilities. The small areas of adverse impacts would affect vegetation around the fringes of previously disturbed areas, such as small patches of coastal sage scrub at the toe of a hillside that might be adjacent to a campground that is being expanded. Removal of disturbed vegetation likely would not result in substantially increased soil erosion (see soils and geology) from existing conditions. The vegetation currently occupying the development sites would presumably be ruderal prior to implementation of the development plan, and, therefore, would not result in elimination of additional native vegetation. Elimination of potential local sources of invasive exotic plants would be a beneficial effect. Impacts on native vegetation from facility development in the preservation alternative are similar to or less than the no action alternative, and would be of minor intensity. The impacts are considered minor because they would be localized and located in disturbed areas, which support few sensitive native species. With the rehabilitation of existing recreation area developments and planned restoration of already disturbed lands within the park, impacts on the net acreage of native vegetation occurring in SMMNRA would be beneficial.

Visitor uses would be greatly curtailed in this alternative, in comparison to the no action alternative. This would lower the risk and extent of potential soil erosion and damage to vegetation and soil profiles resulting from wildfires. Unplanned fires resulting from visitor use would be greatly

reduced, but still would pose a moderate fire hazard to native vegetation in the intensely used areas adjacent to native habitats. The moderate impacts associated with fire hazards in intensely used parts of the SMMNRA is due to both fire suppression zones and the potential for damage to a limited extent of sensitive species or a large extent of non-sensitive species. The curtailment of visitor activities in some areas would reduce the risk of fires and their resultant impacts in general, and specifically in the eastern portions of the recreation area.

Adverse impacts on native vegetation could result from requirements of fire management zones around developed structures. Los Angeles County regulations require a 200-foot fire suppression zone around structures built within chaparral vegetation. Natural vegetation is removed and replaced with fire-retardant landscape species from an approved plant palette. The intensity of this impact depends upon the size of the development area and its shape. These fire suppression zones would be permanent. Impacts from fires, fire management, and facility development in this alternative are considerably less than in the no action alternative, and would be of minor intensity.

Beneficial effects of the preservation alternative include plans to eliminate parking in some areas of the SMMNRA to reduce the impacts on vegetation. Previous parking areas would be revegetated with native vegetation.

About 80 percent of the SMMNRA would be designated as a low intensity area where visitor access to sensitive resources would be neither facilitated nor encouraged. Moderate intensity areas, which would act as a buffer between the low intensity areas and the higher use areas, would generally surround the low intensity areas. Many sensitive species in the low intensity areas

would be exposed to reduced risk of impacts, which likely would be of minor or negligible intensity. This reduction in impacts would be expected because of the number of visitors to or near sensitive resource areas would be greatly reduced, relative to the no action alternative. Typical edge effects would be less than the no action alternative because there would be fewer areas developed with new or refurbished facilities. These reductions in visitor access to low intensity use areas would decrease the potential for moderate impacts to sensitive species, and the impacts would instead remain localized and centered in disturbed areas, which support few sensitive native species.

The primary mitigation for proposed facilities development is to avoid undisturbed native vegetation through careful siting of facilities. New development would be sited in previously disturbed areas, which would normally support stands of exotic vegetation, thereby avoiding or minimizing impacts on undisturbed native vegetation. The number of new developments in the preservation alternative would be the fewest of all the alternatives. A qualified individual would submit all grading and construction plans to the administering agencies for review prior to approval. Areas temporarily disturbed during construction would be recontoured and revegetated with appropriate native plant species, and appropriate fire-suppression zones would be maintained around developed structures. Erosion control measures, such as the installation of siltation fences and sedimentation basins during construction in the rainy season (if unavoidable) would be implemented for surface disturbing activities, such as construction or trail maintenance. Pre-project surveys would be conducted by qualified professionals prior to project implementation in the appropriate season for listed species, as well as other species of federal or state

concern (listed in Table 13). Using the information produced by the pre-construction surveys, the administering agencies would consult with the USFWS and CDFG during the detailed planning phase of a project, if any listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes. Monitoring by a qualified biologist would be required for surface-disturbing activities in, or in close proximity to, sensitive vegetative resources (e.g., wetlands, listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

Adverse impacts on vegetation from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning. Visitor management and visitor education programs, which would be developed and presented in the NEPA documentation for each project, would be effective in minimizing many potential impacts. Fire clearance zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs and distributing educational brochures, should be effective in



reducing the likelihood of visitor-caused fires, and their resultant impacts. If vegetation is lost or disturbed from any activity, the area would be rehabilitated or revegetated with species from an appropriate native plant palette. All of these adverse impacts would be much lower in the preservation alternative than for the no action alternative.

The preservation alternative includes the provision of proposed boundary changes and future studies to determine boundary adjustments north of Cheeseboro/Palo Comado Canyons. Such boundary changes would potentially provide substantial additional protection to vegetation in the linkages within Ventura County. The no action alternative does not include this provision. If these proposed boundary changes are implemented, the preservation alternative could potentially substantially increase the protection of vegetation to the north of the SMMNRA, providing for additional linkages to other open spaces, and at minimum, for archipelago (steppingstone) linkages to other dedicated open space in the north. This would be a major beneficial effect of providing habitats and foraging areas for sensitive biota, such as mountain lions and golden eagles. These species are especially dependent upon open space linkages because it would allow wildlife movement through much larger areas of habitat, and would noticeably enhance the population distribution and gene flow in the region.

In general, mitigation measures would be effective in avoiding or minimizing loss of natural vegetation, and permanent loss in the preservation areas would be minor as result of the preservation alternative. Because the majority of the lands within the SMMNRA would be designated for low intensity use, impacts on biological resources throughout the recreation area would be reduced from levels expected in the no action alternative.

Minor elimination of camping in the recreation area would somewhat reduce the risk of fires, and their resultant impacts, in the moderate and low intensity areas.

► **Wildlife**

Facilities development would have direct, localized impacts on some wildlife species, especially those that are adapted to the use of disturbed habitats. Removal of such disturbed habitat would affect some wildlife, but such species would primarily be non-native. A few species of small mammals, birds, reptiles, and amphibians would be permanently or temporarily displaced by construction activities. Adjacent populations could be adversely affected as displaced wildlife attempt to inhabit off-site areas where other individuals are already established. With the reduction in the number of facilities that would be developed in this alternative, there is little potential for losses of habitat available for endangered, threatened, rare or sensitive species of wildlife. Potential impacts from facility development in this alternative are considerably less than in the no action and other alternatives, but could still range between negligible and major, depending on the extent of impacts to local sensitive species populations. Negligible or minor impacts would occur if only a small portion of habitat is affected, or if construction/disturbance occurs during non-breeding seasons and individuals or populations are not noticeably affected. Major impacts could result, however, if a large proportion or critical area of the population is affected or if disturbance occurs during breeding seasons such that the viability of the population is threatened. In addition, major impacts could occur if sensitive or endangered species are impacted, even to a small extent.

Indirect effects from visitor use would include disruption of wildlife activities for some species, but would be substantially less compared with the no action and other alternatives. These effects would be due to the increase in land dedicated to low intensity uses and the consequent decrease in visitor access to core habitat areas that support sensitive wildlife. Some species, such as deer and mountain lions, are particularly sensitive to human activity in close proximity to water sources and might avoid water sources as a result of visitor activity. In this alternative, such interruptions would be less frequent, more localized, and typically result in minor to moderate impacts. The intensity of such impacts would depend on the presence of both species sensitive to human activity and the availability of alternative undisturbed habitat. Typical artificially produced edge effects where habitats come together would be less in this alternative than in the no action and other alternatives.

The main impact in the low use area would be from trail use. A “corridor” of human impact occurs on trails through natural areas. Impacts could include disturbance to wildlife through human sights, smells and noise. Mitigation measures would include monitoring by qualified staff of the visitor use of trails and possible institution of changes in use, including seasonal or complete trail closure.

Construction monitoring by a qualified biologist in areas supporting sensitive wildlife would reduce or prevent some impacts. Pre-project surveys would be conducted by a qualified biologist prior to project implementation in the appropriate season for listed species, as well as other species of federal or state concern (listed in Table 14). Using the information from the reconstruction surveys, the administering agencies would consult with the USFWS and

CDFG during the detailed planning phase of a project, if any listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes.

Monitoring by a qualified biologist would be required for surface disturbing activities in or in close proximity to, sensitive wildlife resources (e.g., listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

► **Habitat Connectivity**

Implementation of the preservation alternative would greatly enhance the existence and connectivity of undisturbed habitats in the SMMNRA by creating very large expanses of open space, with a nearly continuous connection along the entire east/west axis of the recreation area, all designated as a low intensity area. Such large expanses of natural habitat would promote healthy populations of numerous wildlife species, including sedentary species such as lizards, mice, rabbits, and insects, to name a few. It also would provide a major benefit to larger, more mobile species, such as coyotes, grey foxes, passerine birds, mountain lions,



and deer. About 80 percent of the SMMNRA would fall into this category of land use. Areas of moderate intensity designation would occur primarily around urban centers, and in several larger inclusions west of Sycamore Canyon and along Deer Creek Canyon in Ventura County. In Los Angeles County, these inclusions of moderate intensity area would center on Charmlee Natural Area and the Rocky Oaks/Paramount Ranch area. Additionally, with much more restricted access in the recreation area, the overall risk of habitat alteration due to fire would be reduced significantly. Boundary adjustments under this alternative would also enhance habitat connectivity by identifying areas needed for future preservation within the region. Overall, the preservation alternative would benefit wildlife movement and gene flow compared to the no action alternative. These beneficial effects would be considered moderate to major. Moderate effects would occur if movement is enhanced and noticeably increases the distribution of a sensitive species, while major effects would result if the preservation of a particular corridor enhances the regional population and/or viability of a sensitive species. This configuration of designated use areas could reduce impacts on specific wildlife species from human activities by perhaps one or more levels of intensity (major to moderate, moderate to minor, minor to negligible) for many species when compared with the no action alternative.

As with the no action alternative, the primary mitigation to offset impacts from new development would be to avoid sensitive habitats and habitat linkage areas through careful project siting. Facility development projects and infrastructure would be placed away from sensitive biological resources. A qualified biologist within the administering agencies would evaluate all proposed actions for their affects

on habitats and on habitat connectivity to avoid further habitat fragmentation. New developments would be excluded from existing wildlife corridors, or minimized to the greatest extent practicable, to ensure the continued exchange of genes and individuals between wildlife populations within and adjacent to the SMMNRA. Degraded habitats within conserved linkage areas would be restored and blocked linkages may be recovered. For example, some previous wildlife corridors now blocked by roadways could be restored by the installation of undercrossings and adjacent vegetation. The most effective means of maintaining habitat connectivity is through the maintenance of sufficiently wide (greater than 400 feet) habitat linkages between major blocks of habitat. The feasibility of retrofitting wildlife underpasses where primary roads intersect with wildlife movement areas within the recreation area would be considered in the NEPA documentation prepared for projects that might affect habitat linkages within their sphere of influence.

► **Wetlands**

Several of the proposed facilities included in the preservation alternative are located in close proximity to wetland resources:

- **The Mugu Lagoon Visitor Education Center**— would be sited between PCH and the lagoon within an already disturbed upland site. This facility includes a perimeter boardwalk for visitor viewing of the lagoon and associated wildlife.
- **Leo Carrillo State Beach campground** is located within a major drainage and riparian area. The rehabilitation of this facility would be focused toward relocating selected campground activity areas away from riparian areas to allow for riparian habitat enhancement and restoration.

- **Paramount Ranch**— has a substantial riparian area that bisects it. Existing access through this riparian area would be maintained.

Impacts to wetland resources associated with this alternative are considered to be potentially minor to major and short-term. Facilities would be located near, but not within, wetlands, whenever feasible. Impacts to wetland range from minor to major. Minor impacts would be expected with uses adjacent to wetlands that have a slightly perceptible impact on wetland value or function but are localized or affect only edge habitats on non-sensitive species. Major impacts could occur, however, if a facility or visitor use area is located within a wetland and substantially decreases its function or value. The impacts under this alternative would be mostly associated with linear infrastructure improvements and would be minimized by avoidance to the extent practical. Major impacts to wetland resources are not expected because impacts associated with facility construction would be localized and sited outside wetland boundaries. The preservation alternative is expected to have fewer impacts to wetlands than any of the other alternatives.

Wetlands and riparian habitats are considered sensitive resources to be conserved and enhanced wherever practicable. New facilities would be sited away from wetlands wherever practicable. Detailed wetland delineation in accordance with ACOE protocol would be conducted by a qualified biologist prior to site engineering so that this information could be used during the site design process. New facility infrastructure (water, sewer, roads, trails) would avoid wetland resources where upland alignments are available. Upland buffers between wetlands and facilities would be provided wherever practicable. Where existing facilities require long-term

maintenance or enhancement (e.g. Paramount Ranch), siting of infrastructure improvements would minimize impacts to wetlands resources wherever practicable. Existing disturbed areas within the drainage reach associated with the facility would be utilized where avoidance of wetland impacts is not practicable. Opportunities to restore and enhance disturbed wetland resource areas adjacent to facilities would be identified during the site design process. Closure of selected roads and trails would provide opportunities for wetland restoration. Unavoidable impacts to wetland resources would be fully mitigated through the 404/401 and 1603 wetlands permitting process, which emphasizes avoidance and minimization of impacts prior to considering compensatory mitigation.

CUMULATIVE IMPACTS

Cumulative impacts of the preservation alternative would be similar to those described under the preferred alternative and would remain minor, as identified in the listed project documents. However, the SMMNRA's biological resources would benefit the greatest by implementation of this alternative. Recreational uses would disturb some wildlife species, but at very low levels in comparison to the no action alternative.

CONCLUSIONS

Because the majority of the lands within the SMMNRA would be designated for low intensity use, impacts on biological resources throughout the recreation area would be expected to be minor and reduced from levels expected in the no action and other alternatives. Potential impacts due to facility siting and impacts to sensitive species could still range from negligible to major, however. The elimination of camping in the recreation area would greatly reduce the risk of fires, and their resultant impacts, in the moderate



and low intensity areas. Implementation of the preservation alternative would greatly enhance the existence and connectivity of undisturbed habitats in the SMMNRA by creating very large expanses of open space, with a nearly continuous connection along the entire east/west axis of the recreation area, all designated as a low intensity area. The mitigation measures discussed in the analysis of impacts section are recommended for the preservation alternative to reduce adverse impacts to biological resources and wetlands to minor.

Paleontology

ANALYSIS

The preservation alternative would result in less impact to paleontologic resources compared to any of the other alternatives. The seven recreation area-related developments that are retained under this alternative contrast with the possibly 16 that would be undertaken for other alternatives. Moderate to major beneficial effects to paleontologic resources would occur in part because these seven facilities lie largely within previously disturbed areas. The extent of scenic corridor roads would be reduced, also resulting in the reduction of impacts to paleontologic resources both directly and by reducing the risk of fire that would, in turn, result in a reduction of fuel management and fire suppression operations that could increase erosion.

Moderate adverse impacts to sediments possessing moderate to high paleontologic sensitivity may nevertheless occur from construction excavations, fuel management, and fire suppression operations. Limited disturbance of deposits with moderate to high paleontological potential would result in a perceptible impact that would be considered a moderate impact. Rerouting and revegetating trails, and reconfiguring roads would result in moderate adverse

impacts to paleontologic resources in areas characterized by moderate to high sensitivity sediments, due to the potential for disturbing a limited extent of deposits with moderate to high paleontological potential. Impact mitigation would include the determination the paleontologic sensitivity of affected sediments by a qualified professional during administering agencies geological and geotechnical review of grading and construction plans. If excavation were to occur in sediments that have high to moderate paleontologic sensitivity, monitoring by a qualified paleontologist would occur during excavation. If fossils were discovered, construction would halt in the immediate vicinity of the find until they were removed in a scientifically controlled fashion by a qualified paleontologist. Recovery of the scientific data potential of the fossils would reduce impacts to a minor level. Additional mitigation measures would include public education regarding the scientific and educational importance of fossils, and enhanced awareness of enforcement of California State and NPS non-collection policies.

Beneficial effects under the preservation alternative include the reduction of visitor use levels relative to the other alternatives, which may result in the reduced minor impact of unauthorized collection of paleontologic materials. This collection would be considered a minor impact because facilities and high use intensity areas would be likely to encompass only limited deposits with moderate to high paleontological potential because of their location in previously disturbed areas and the limited public access to such sites within the SMMNRA. Activities that would occur on previously disturbed sediments, and rock units and sediments possessing no or low paleontologic sensitivity would have no impacts to paleontologic resources.

CUMULATIVE IMPACTS

The contribution to cumulative impacts from the preservation alternative would be localized and minor, after mitigation, similar to the no-action alternative, and would remain minor as identified in the listed project documents.

CONCLUSIONS

The preservation alternative would result in less impact to paleontologic resources compared to any of the other alternatives. Moderate adverse short-term impacts to sediments possessing moderate to high paleontologic sensitivity is nevertheless expected from construction excavations, fuel management, fire suppression operations, rerouting and revegetating trails, and reconfiguring roads. The mitigation measures discussed in the analysis of impacts section are recommended to reduce all adverse impacts to minor.

CULTURAL RESOURCES

ANALYSIS

The emphasis of actions proposed under this alternative, for both cultural and natural resources is toward the protection of cultural and natural resources and the restoration of natural resources that are most easily damaged or rehabilitated. This could result in conflicts in the management of cultural and natural resources. If, in the resolution of such conflicts, it was determined that the protection and preservation of the natural resource(s) superseded that of the cultural resource(s), and that the removal of historic developments or preparation of the soil to restore Mediterranean ecosystem vegetation would result in direct impacts to historic and archeological resources (i.e., disturbance of archeological deposits), then Chapter 5, Section 5 of the National Park Service's *Management Policies* (1988) permits the planning process to make this decision:

Achievement of other park purposes may sometimes conflict with and outweigh the value of cultural resource preservation. The planning process will be the vehicle for weighting conflicting objectives and deciding that a cultural resource should not be preserved. Following such a decision, significant resource data and materials will be retrieved.

Impacts to cultural resources resulting from such decisions would be mitigated to the fullest extent possible in compliance with Section 106 of the National Historic Preservation Act and CEQA. Ecosystem restoration plans should therefore incorporate measures for mitigating impacts to cultural resources. Such measures would include avoidance or preservation, if possible or a suitable data recovery program. As a result of these measures, impacts would be kept to negligible levels.

Higher levels of visitation, stimulated by the recreation area's emphasis on enhanced environmental education and outreach programs, could make the recreation area's cultural resources more susceptible to degradation through increased rates of erosion, inadvertent damage, or vandalism. Implementation of the preservation alternative, however, would also enhance the interpretive and educational components of the cultural resource management program. The development of stewardship programs could limit the destructive effects of vandalism through increased public involvement and awareness. This increased public sensitivity to the importance of the resources could potentially reduce impacts to a minimal level by instilling a greater understanding and appreciation of the resources.

The SMMNRA's outreach policy, which includes conducting programs for school children, could be significantly expanded under this alternative, incorporating more information and values about cultural

resources in the curriculum. This could help to build an enlightened constituency that would benefit resource preservation in the recreation area in the future.

The acquisition of lands or interests in lands by the administering agencies could benefit cultural resources by extending the protection of federal preservation laws, as well as by protecting viewsheds of cultural landscapes from inappropriate development adjacent to SMMNRA boundaries. Although cultural resources located on the acquired lands would be subject to the same impacts as sites on existing federal land, the level of protection would be significantly higher than under current private ownership. Administering agency staff would work with neighboring landowners and jurisdictions to ensure, to the extent feasible, that adjacent land management practices do not impair the recreation area's cultural resources, viewsheds, or distant vistas.

► Archeological Resources

Archeological resources would be protected from the effects of development and visitor use, where possible. However, sites would remain susceptible to natural deterioration, inadvertent damage by human activity, and vandalism in areas further removed from the purview of recreation area staff. Some sites would eventually be lost. Further deterioration or destruction of archeological sites in the recreation area by natural forces or human activity would result in the loss of resource values associated with the prehistory and history of the region. Such impacts are expected to be negligible because this alternative would not increase public accessibility to archeological sites in the SMMNRA. With appropriate mitigation, these impacts could be further reduced.

Re-routing existing trails away from known archeological resources could afford such resources more protection from inadvertent damage by human activity and

from vandalism. To ensure that adequate consideration and protection are accorded archeological resources, archeological surveys would be conducted by qualified archeologists prior to all ground disturbing activities, and archeological monitoring would occur where ground disturbance occurs in the vicinity of known or suspected, potentially significant archeological resources. If cultural materials were unearthed during construction activities, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed, if necessary. If construction impacts upon archeological sites cannot be avoided; mitigation would be implemented to include data recovery and consultation with concerned Native American Indian groups and the California SHPO.

If human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during facilities or trail improvements, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed.

Prior to the implementation of construction, the APE for cultural resources would be defined, a record review conducted and a pedestrian survey completed by a qualified archeologist. Mitigation measures, including avoidance or data recovery, would be proposed if resources are identified, and the SHPO would be afforded the opportunity to consult on measures for cultural resources protection and mitigation of adverse impacts. Monitoring by a qualified archeologist and a Native American Indian representative would accompany any ground disturbing construction. In the case of any unanticipated discoveries, all ground-disturbing activities in the vicinity would be stopped until the significance of the find is determined.

Management plans would incorporate measures to reduce or eliminate indirect impacts to cultural resources to negligible levels. Such measures might include restrictions on access, signage, visitor education, or data recovery.

■ Historic Structures

Implementation of the preservation alternative would not impact the three historic structures within the recreation area's boundaries that are listed on the National Register of Historic Places – the Adamson House, Loeff's Hippodrome (on Santa Monica Pier), and the Will Rogers House. The existing management and use of the structures would remain unchanged, and existing levels of visitation are not expected to appreciably increase. Although visitor use would be limited, minor indirect effects resulting from visitor use, including wear-and-tear and routine maintenance, would occur but would be kept negligible through proper management, use of historic materials and supplies, and other measures in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Where feasible, other historic structures could be adapted for compatible contemporary use while preserving those features or elements of the structures that contribute to their historic significance. The preparation of historic structure reports by qualified individuals documenting the history and changes through time of structures would precede the adaptive rehabilitation of any historic structure. Though adaptive reuse ensures that historic structures would survive, it could also result in the loss of historic fabric. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. Appropriate management following the *Secretary of the Interior's*

Standards for the Treatment of Historic Properties (1995) for rehabilitation could eliminate or reduce these effects to negligible levels. Among other measures, materials removed during the rehabilitation of historic structures would be evaluated to determine their value to the recreation area's museum collections and/or for their use in future preservation work at the sites.

The use of historic structures for interpretation or visitor services and concessions might result in increased deterioration of such resources through wear and tear. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. Appropriate management, however, as discussed above, could maintain these impacts at negligible levels. Furthermore, the interpretive and educational programs of the SMMNRA could promote understanding and appreciation of the value of the recreation area's historic structures, as well as provide guidance to how to experience such resources while minimizing impacts. In addition, determining and monitoring the carrying capacity of historic structures would result in the imposition of visitation levels or constraints that could contribute to the stability or integrity of the structures without unduly restricting their use or interpretation.

Making historic structures accessible to the mobility impaired, or making alterations to accommodate new concessions, could result in the loss of historic fabric or the introduction of new visual and non-historic elements. These impacts would be considered moderate because they would potentially involve only a few components of sites with historic integrity. Again, however, appropriate management could minimize these impacts by ensuring that appropriate materials and compatible designs are employed during alterations. To



appropriately preserve and protect historic structures that are either listed on or potentially eligible for inclusion on the National Register of Historic Places, all preservation and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the National Park Service's *Management Policies* (1988) and *Cultural Resource Management Guideline* (1996), and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). In addition, the preparation of historic structure reports, which document the history and changes through time of buildings and structures, would precede the adaptive rehabilitation or restoration of all historic buildings and structures.

Actions undertaken to minimize erosion along historic roads and trails would be implemented in a manner that preserves the integrity of these cultural resources. Specifically, historically correct materials and designs would be used for erosion control, and/or erosion control devices would be appropriately screened from view, as per the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

► **Cultural Landscapes**

New use and development might be introduced into many of the recreation area's potential cultural landscapes. However, the careful design and use of compatible materials in the construction of new facilities, interpretive waysides, or trails would reduce or eliminate visual impacts upon the landscape. Although there would be an initial impact and a time lag until full vegetation establishment, the restoration of Mediterranean ecosystems under this alternative could enhance the attributes of cultural landscapes associated with traditional Native American Indian lifeways and beliefs. These impacts could result in fairly extensive changes in historic character depending on

the extent and use intensity of such facilities, and could be considered moderate impacts. As a result, impacts would be kept negligible and would be of short duration.

The designation of Mulholland Drive, from Malibu Canyon Road to Pacific Coast Highway and east along PCH as a scenic corridor would encourage public interest in the corridor and its associated resources. This component action would entail its formal evaluation and documentation as a heritage corridor or cultural landscape, and would likely increase traffic along this route. As a result, this action could affect resources by compromising integrity of place and setting. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. Management through traffic control, access restriction, and similar measures, however, could reduce this impact to negligible levels.

► **Ethnography**

Ethnographic resource values are taken into consideration early in the planning process. Impacts to known ethnographic sites from proposed developments under the preservation alternative could be anticipated and planned for, with the intent of minimizing or eliminating impacts. Some sites, however, would remain susceptible to natural deterioration, inadvertent damage by human activity, and vandalism. These impacts would be considered moderate because they could potentially result in a perceptible degradation of a Native American site with moderate to high historic data potential. These impacts would require mitigation through avoidance, data recovery, or other measures. Consultation with and facilitation of Native American Indian participation in the interpretation of ethnographic resources would support the protection, enhancement, and preservation of

ethnographic resources and the continuation of traditional cultural practices, as well as increase non-Indian knowledge and appreciation of traditional culture.

► **Component Actions**

Component actions that are included under the preservation alternative are listed below, along with their potential impact on cultural resources and the mitigation measures necessary to minimize them. In a majority of instances, however, the presence or absence of cultural resources has not yet been ascertained. As a result, the intensity of impacts cannot always be determined at this time.

1. Distribution of land with the intended use intensities: low 80 percent, moderate 15 percent, high 5 percent

The 80 percent of land designated as low intensity use, and the 5 percent of land designated for high intensity use, would increase the protection afforded to cultural resources by decreasing impacts associated with visitor activities. No mitigation efforts for historic properties are required for this component action. Devices used to limit visitor access would stress the protection of the natural and cultural resources of the SMMNRA. Inventory of federal lands under Section 110 of the NHPA would continue, however, while compliance with Section 106 of the NHPA, including inventory, evaluation, and impact assessment, would be followed for all planned undertakings in these areas.

2. The western escarpment of the Santa Monica Mountains adjacent to the Oxnard Plains and the area around Las Virgenes Reservoir would be studied for inclusion in the SMMNRA.

Chumash consultants have identified the western escarpment as a significant area in their traditions.

Including these areas within the SMMNRA would extend the protection provided to cultural resources under federal ownership. These areas would also serve as buffers against adjacent development. No mitigation efforts for cultural resources would be necessitated by this component action. Inventory of cultural resources in the western escarpment of the Santa Monica Mountains and the area around Las Virgenes Reservoir would take place in compliance with Section 110 of the National Historic Preservation Act.

3. Steelhead trout would be reintroduced in Calleguas Creek.

Local Native American Indian groups have identified Calleguas Creek as an important cultural landscape. The introduction of steelhead trout in Calleguas Creek would have no effect on cultural resources or the cultural landscape. No mitigation efforts would be necessary.

4. Boundary adjustment studies would be conducted at Conejo Valley, Ladyface Peak, Marvin Braude Mulholland Gateway Park, the area east of Hidden Valley and Stone Canyon, portions of open space around Agoura Hills and a portion of the Calleguas Creek watershed.

Some of these areas, such as Ladyface, Burro Flats, Castle Peak, and Calleguas Creek, are significant cultural landscapes for Native American Indian groups affiliated with the area. The addition of these areas would extend to these cultural resources and cultural landscapes the protection offered by federal ownership. Based on the stated proposed action, no mitigation efforts for historic properties are necessary. Inventory of cultural resources on newly acquired acreage would take place in compliance with Section 110 of the National Historic Preservation Act.



5. Watersheds and coastal resources would be protected and preserved through management practices and improvements –

Watershed improvements such as construction or revegetation activities might impact any historic properties present in these project areas if ground-disturbing activities take place on or near archeological sites, or these activities result in erosion of archeological deposits. The impacts would range from minor to major depending on the extent and depth of erosion, as well as the presence of significant cultural resources. The following mitigation measure is recommended:

✓ All construction or revegetation projects involving ground disturbance would be preceded by a cultural resource inventory, evaluation, and impact assessment program. If necessary, mitigation measures, including avoidance or data recovery, would be developed and implemented. As a result, impacts could be kept to negligible levels.

6. The Backbone Trail would be expanded and some trails in sensitive areas might be rerouted to avoid those areas or to minimize the length of crossing across the sensitive area.–

Trail construction might adversely affect nearby archeological sites, historic properties and the cultural landscape, either through ground disturbance caused by trail construction, or through increased erosion, access, or vandalism could range from negligible to moderate. Negligible impacts could occur if trails are constructed some distance away from any sites with high cultural value. Moderate impacts could result, however, if trails are sited through, or adjacent to, sites with high cultural potential. Rerouting of trails away from sensitive areas would increase the protection and preservation

of cultural resources within those areas. The following mitigation measure is recommended:

✓ A cultural resource inventory, evaluation, and impact assessment program conducted by a qualified historical landscape architect or landscape historian would precede all ground-disturbing activities. If any resources are identified, mitigation measures, including avoidance or data recovery, would be developed and implemented. Concerned Native American Indian groups would be consulted regarding potential impact to cultural landscapes of traditional significance and would assist in developing appropriate mitigation measures.

7. Overnight use would continue to be permitted at Leo Carrillo State Beach, Thornhill Broome Beach, Sycamore Gap Circle X Ranch, Malibu Creek State Park District Headquarters, and Musch Ranch.–

Several of these sites are located in the vicinity of historic Native American Indian settlements. Archeological, ethnographic, or historic resources might be present at or near other locations as well. Overnight use of these areas might increase the potential for adverse impacts to historic properties, primarily through increased access that could result in a higher potential for inadvertent damage and vandalism, although impacts are expected to be negligible due to the current visitor use in the area and the localized characteristics of such impacts. The following mitigation measure is recommended:

✓ Management plans developed or amended to accommodate overnight uses in the vicinity of historic settlements would be reviewed by qualified staff for conformance with applicable federal,

state, and local statutes and regulations regarding cultural resources. If necessary, these plans would incorporate measures to reduce or eliminate potential impacts to cultural resources. Such measures might include restrictions on access, signage, visitor education, or data recovery and would maintain those impacts at negligible levels.

8. Mugu Lagoon Visitor Education Center would be located at the western most end of the recreation area, off of the Pacific Coast Highway

– The proposed site would be located in a previously disturbed area. A historic Native American Indian settlement of considerable cultural significance, however, is located in the vicinity and unidentified components of this site might be present in the proposed site area. If intact but unidentified subsurface deposits are present, construction and other ground-disturbing activities might severely impact them. The impact would be considered major because it would affect an entire site with high archeological data potential. As a result, further development in the area would be of concern to Native American Indians. The following mitigation measures are recommended:

✓ A cultural resources inventory, including subsurface exploration, would be completed prior to the finalization of plans associated with the Mugu Lagoon Visitor Education Center, to assess the potential to adversely impact archeological deposits in this area. If necessary, mitigation through avoidance or data recovery would be undertaken. Because the presence or absence of resources has not yet been ascertained, the intensity of impacts cannot be determined at this time.

✓ Monitoring by a qualified archeologist and a Native American Indian would also accompany any ground-disturbing activities. In the event that unknown resources are encountered, all construction activities in the vicinity would be halted until the significance of the find is evaluated and an appropriate course of action is defined.

✓ To assist with visitor education, the Mugu Lagoon Visitor Education Center would include information on traditional lifeways and the significance of the settlement of Muwu to the cultural history of the area.

9. The campground at Leo Carrillo State Beach would be rehabilitated to integrate the campground with natural riparian processes

– The rehabilitation of natural riparian processes would likely enhance the value of the area as a cultural landscape. However, historic properties might be impacted if rehabilitation involves subsurface disturbance. Such impacts, however, are expected to be negligible to minor, because of the low probability of such impacts affecting a site with high data potential. No mitigation would be required for activities that do not involve ground disturbance. The following mitigation measure is recommended for all rehabilitation activities that involve subsurface disturbance:

✓ A qualified archeologist would conduct an inventory, evaluation, and impact assessment program at the Leo Carrillo State Beach site. If resources are identified, mitigation measures would include avoidance or data recovery.

10. Paramount Ranch would include facilities for a film history center. Parking and circulation are to be improved to accommodate visitation.

– Paramount Ranch is a historic property and has

been determined a significant cultural landscape eligible for listing on the National Register of Historic Places. Any construction or reconstruction might cause the alteration, removal, or destruction of original materials that contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is recommended:

- ✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of the Paramount Ranch property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation, reconstruction using historically appropriate materials, or similar measures, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). As a result, impacts are expected to be negligible to minor.

11. The National Park Service and California State Parks would have a jointly operated administration and education center located at Gillette Ranch.— Gillette Ranch is a historic property located near a historic Native American Indian settlement. Any construction to accommodate this component action might cause the alteration, removal, or destruction of materials contributing to its historic significance. Depending on the nature and extent of new construction and

the data potential of affected sites, resulting impacts to this property could be moderate to major in intensity. It is likely, however, that joint management activity could also promote the more effective management of the cultural resources of the recreation area. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed prior to the finalization of plans associated with the administration and education center at the Gillette Ranch facility, to assess the potential to adversely impact archeological deposits in this area. If resources are identified, mitigation through avoidance or data recovery would be undertaken.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would also accompany any ground-disturbing activities. In the event that unknown resources are encountered, all construction activities in the vicinity would be halted until the significance of the find is evaluated and an appropriate course of action is defined.
- ✓ Concerned historic preservation groups would also be consulted and their input incorporated into the management plan for this facility.

12. A visitor center would be located at Malibu Bluffs.— Malibu Bluffs is in an urban area. However, it is in proximity to a historic Native American Indian settlement. The possibility of intact subsurface cultural deposits exists, which poses potential impacts from construction-related ground disturbance. Because of the minimal potential for affecting previously undisturbed archeological deposits with high data potential, these impacts would be considered minor. The following

mitigation measures are recommended:

- ✓ Prior to the implementation of construction, a qualified archeologist would define the Area of Potential Effect (APE) for cultural resources, review records, and conduct a pedestrian survey of any exposed ground. Mitigation measures, including avoidance or data recovery, would be proposed if appropriate, and the SHPO would be afforded the opportunity to comment on measures for cultural resources protection and mitigation of adverse impacts.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing construction. In the case of any unanticipated discoveries, all ground-disturbing activities in the vicinity would be stopped until the significance of the find was determined. As a result, it is anticipated that any impacts could be kept to negligible levels.

- 13. The educational day camp program at the William O'Douglas outdoor education center located in Franklin Canyon would be expanded.** – If this expansion involves no subsurface disturbance to enlarge or improve facilities, no impacts to cultural resources would be anticipated. However, Franklin Canyon is a cultural landscape and a historic Native American Indian settlement is reported in the vicinity. Should expansion require land clearing and/or ground disturbance, those activities could moderately impact elements of integrity contributing to the significance of the cultural landscape, largely through the introduction of incompatible structures or other elements and/or directly impact historic properties such as the reported settlement through construction activities. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed prior to the finalization of plans associated with this facility, to assess the potential to adversely impact archeological deposits in this area. If resources are identified, mitigation through avoidance or data recovery would be undertaken. Because the presence or absence of resources has not yet been ascertained. The intensity of impacts cannot be determined at this time.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. In the event that unknown resources are encountered, all construction activities in the vicinity would be halted until the significance of the find is evaluated and an appropriate course of action is defined.
- ✓ Concerned historic preservation groups would be consulted and their input incorporated into the management plan for this facility.

- 14. The route of Mulholland Drive from Malibu Canyon Road to Pacific Coast Highway and east along PCH would be designated as a scenic corridor**– Road improvements might be necessary, directly affecting cultural resources. In addition, once a road has been designated as a scenic corridor, visitation might increase and visitors might be more inclined to stop and explore along the route. These issues might impact historic properties, largely by compromising setting, feeling, and other aspects of integrity. These impacts are expected to be negligible due to the existing disturbed character of the area and the limited additional access that would occur to undisturbed cultural sites. The following mitigation measures are recommended:



✓ The documentation that would accompany the designation of Mulholland Drive as a scenic corridor would provide information that could be integrated into the management of this resource. A cultural resources inventory, evaluation, and impact assessment, followed by mitigation through avoidance, data recovery, or other measures, if necessary, would precede all road improvements. Other effects might require mitigation through traffic control, access restriction, and visitor education. Regulations regarding protection of historic properties would be posted and included in handouts, pamphlets, brochures, or other printed materials intended for visitor use. As a result of these measures, impacts are expected to be negligible.

- 15. Rehabilitate the Morrison House to reflect the ranching period.**— The Morrison House is a historic structure and may be eligible for listing in the National Register of Historic Places. Any construction or rehabilitation might cause the alteration, removal, or destruction of original materials that contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is recommended:

✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified biologist, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation,

reconstruction using historically appropriate materials and prepared by an historical landscape architect in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). As a result, impacts would be expected to be negligible to minor.

CUMULATIVE IMPACTS

The preservation alternative would result in similar negligible cumulative impacts to cultural resources as discussed under the no action alternative.

CONCLUSIONS

The preservation alternative offers a high level of protection to historic properties, given this alternative proposes the fewest facilities and that 80 percent of the lands are designated low intensity, 15 percent moderate intensity, and 5 percent high intensity. In addition, component actions under this alternative are largely designed to minimize impacts. As a result, there would be a notable decrease in the potential number of cultural resources that would be affected by project activities and mitigation. The potential for unintended damage without mitigation would also decrease with this alternative. Adverse impacts would be reduced to negligible with the mitigation discussed in the analysis of impacts section.

VISITOR EXPERIENCE

ANALYSIS

Under the preservation alternative, visitor experiences generally would reflect experiences described under the preferred alternative. However, the effective boundary of the SMMNRA would expand through acquisition of adjacent lands by fee title and conservation easement. This may provide visitors with the opportunity to access new areas that offer a different

experience to park users and therefore would be expected to have moderate to major beneficial effects on visitor experience. Expansion of the SMMNRA boundary, including acreage at Mugu Lagoon, could permit distribution of visitors over a larger area, thereby decreasing the negative effects associated with increased visitation expected under the no action alternative and resulting in a minor impact due to the less frequent occurrence of crowding. These impacts could be further reduced by guiding visitors to high use areas and encouraging visitor use during less busy times.

Similar to the preferred alternative, educational programs under the preservation alternative would be increased to encourage sustainable use of park resources by visitors. Educational programs would be particularly expanded at facilities located at Gillette Ranch, Mugu Lagoon, and the Morrison House. Such programs are expected to have moderate beneficial effects on visitor experience by encouraging visitors to responsibly enjoy resources in the SMMNRA while decreasing visual and auditory intrusions. In addition, a “virtual park tour” would be provided at visitor centers outside the SMMNRA. These virtual tours could focus visitors on destinations before entering the SMMNRA and perhaps slightly decrease traffic within the park, resulting in a minor beneficial effect.

As in the preferred alternative, a tour shuttle would travel a scenic loop, and connecting major points of interest in the park would possibly provide a moderate beneficial effect as visitors could view the park and relax, as opposed to driving their own vehicles. Recreational users would be able to park in designated lots and not face the difficulty of finding parking in the limited spaces throughout the recreation area. This would have an overall positive long-term effect.

This alternative is expected to have major beneficial effects on visitor experiences in low intensity areas. Large expanses of additional land could be opened to the public for non-damaging uses. Managing additional parcels for low intensity uses that are compatible with enhancement of wildlife habitats and populations would enhance opportunities to observe and photograph wildlife in those areas.

Restrictions on uses of areas currently managed for moderate intensity use may have moderate adverse impacts on visitors that enjoy multi-use trails and camping. Impacts could be reduced to minor by improving existing trails, and creating new trails and camping areas in remaining moderate intensity use areas.

CUMULATIVE IMPACTS

Cumulative impacts of the preservation alternative would be similar to those described under the preferred alternative. Impacts would be further reduced by the proposed boundary adjustments, but not enough to change the adverse cumulative impacts. The boundary adjustments would contribute to the wildlands experience by enlarging the low intensity areas. Cumulative impacts would remain moderate.

CONCLUSIONS

The existing range of recreational visitor experiences would be maintained. Increasing the percentage of low intensity use areas and adjusting boundaries to include more undeveloped space, would help ensure that visitors have the opportunity to experience quiet and solitude. This might result in a major beneficial effect for those that seek that kind of experience. Mitigation measures for reducing impacts related to increased visitor use and restricting activities in areas previously dedicated to moderate intensity uses would reduce the adverse impacts to minor and are described in the analysis of impacts section.

LAND USE AND SOCIOECONOMIC ENVIRONMENT

Land Use

ANALYSIS

Similar to the preferred alternative, the preservation alternative would preserve 80 percent of the natural systems present on recreation area lands and develop educational programs for public visitors and school systems. Large portions of park-related land uses and development would be removed and the land restored to its natural state. Certain fire access roads might also be abandoned and the land restored. Trails located in sensitive areas would be re-routed and the land restored. The Backbone Trail would be expanded and other trails retained in their current state. Moderate intensity area buffer zones would comprise an estimated 15 percent of the recreation area lands and 5 percent would be allocated to high intensity area recreation area facilities. In contrast to the preferred alternative, which proposes 16 additional facilities, the preservation alternative includes only seven additional facilities, primarily located within high intensity management areas.

Implementation of the preservation alternative would involve several actions. Trails presently located in or near sensitive resources would be closed, re-routed and the land replanted. Non-essential roads would be closed and the land restored to its natural condition. Existing utility lines would be removed or placed underground and the land restored to its natural condition. Long-term maintenance of trails, utility corridors, campsites and other facilities might involve motorized equipment. The NPS would provide law enforcement patrols on foot, bicycle, horseback and, where appropriate, vehicle. To protect natural areas from vehicle tracks and clearing or grading scars the NPS

and emergency response authorities would agree to use precaution via memorandums of understanding.

As illustrated in Figure 7 – Preservation Alternative, the areas established by the NPS as low, moderate, and high intensity management areas remain the same in the preservation alternative as the preferred alternative. As a result, similar impacts due to inconsistencies between locally designated residential areas and low and moderate intensity management areas would occur with the implementation of the preservation alternative as discussed under the preferred alternative. In addition, inconsistencies between designated open space and residential areas with high intensity management areas would remain similar.

The land use inconsistencies between locally designated residential areas and low and moderate use intensity management areas could be partially mitigated by close coordination between NPS and local jurisdictions during land development policy and plan amendment processes to increase the consistency of land use management approaches.

The potential impacts associated with proposed facilities under the preservation alternative would likely be less than the preferred alternative due to an overall decrease in the number of proposed facilities. Impacts similar to those described under the preferred alternative would still be expected, however, since a total of seven facilities may be constructed if the preservation alternative is implemented.

High intensity management areas under the preservation alternative would be surrounded by both designated open space and residential land, as described under the preferred alternative. As discussed in the no action alternative impact analysis, high intensity management areas are inconsistent with residential development, and would

result in moderate to major impacts, depending on the type of facility or use envisioned by the NPS and the surrounding residential development density.

Negligible to minor impacts would occur in high use management areas that are already designated open space by local land use authorities depending on the focus of the open space area for urban recreation or resource protection. Impacts due to inconsistencies between designated residential and open space areas and high use intensity management areas are similar to those discussed under the preferred alternative. Negligible impacts would result from high use management areas if an open space area has the primary goal of urban recreation because such uses/facilities would not substantially detract from the existing use of the area. More substantial impact could be expected if an open space area is dedicated to resource protection, however, because additional development and/or use could diminish the role of the open space to protect natural resources. However, these impacts would remain minor since the high use intensity designation and facility development would only occur on already disturbed or highly used sites, or at the perimeter of the parkland, and would therefore not greatly decrease the value of the open space. In addition, high use intensity areas are not located adjacent to any locally designated habitat preservation areas, which minimizes the potential for impact to protected natural resources due to visitor use in high intensity areas or facilities. Activity within the SMMNRA would also be controlled, and would afford a higher level of protection than areas under local control. These impacts would be partially mitigated through the design of access within high use intensity management areas to direct visitor use away from areas primarily designated for resource protection.

Boundary studies are proposed on currently vacant lands. These would include portions of Conejo Valley located at the west end of the SMMNRA boundary, the area east of Hidden Valley in the southern portion of Thousand Oaks, Marvin Braude and Mulholland Gateway Park in the city of Los Angeles, and lands around Las Virgenes Reservoir and Ladyface Mountain in the city of Agoura Hills. If these lands are added to the recreation area and the land is acquired by the NPS, the properties would be managed as moderate intensity areas and would be subject to the same use restrictions and public access opportunities. All of the boundary studies would increase potential moderate and major impacts associated with the preservation alternative due to inconsistencies the additional lands would have with currently designated residential and open space land until the NPS acquires the land. Impacts associated with the boundary studies extending into the cities of Thousand Oaks, Agoura Hills, and Encino/Tarzana would be the same under the preservation alternative as described in the impact analysis for the preferred alternative. Additional impacts may occur with a proposed boundary study to evaluate expanding the SMMNRA boundary north of Las Virgenes and Cheeseboro Canyons. While much of the space is designated open space, the boundary study does not encompass any discrete area and could extend into land designated for other uses. Similar uncertain impacts could be associated with a boundary study west of the SMMNRA boundary. The study would involve evaluating an expanded area for inclusion in the SMMNRA, some of which is encompassed by land currently designated as residential, commercial, and agricultural. Moderate to major impacts could potentially occur due to the inconsistencies between moderate intensity management areas and residential development, depending on the



density of development planned for the area, as described under the impact discussion for the preferred alternative. Major impacts could occur due to inconsistencies between the moderate intensity management zone and the designated agricultural areas, since agricultural production precludes placing emphasis predominantly on the natural environment. Similarly, major impacts could result from inconsistencies between commercially designated land and moderate intensity management areas because many of the activities described under the moderate intensity management areas would be precluded by commercial development. Two smaller additional boundary studies are also proposed for the city of Los Angeles, one just south of the Getty Museum and the other in Stone Canyon. Expansion of the SMMNRA boundary in these areas would add to inconsistencies between moderate use intensity management areas and designated residential land, which is identified as a moderate to major impact, depending on the density of development in the area.

CUMULATIVE IMPACTS

Cumulative impacts are similar to those described under the no action alternative and would remain major. Although the preservation alternative proposes a number of additional park facilities, they would be located throughout the project area and would not contribute to the overall development of the region.

CONCLUSIONS

The preservation alternative would increase areas managed for low intensity uses to 80 percent of the total SMMNRA area, while reducing those areas managed for high intensity uses to only 5 percent of the total area, compared to the no action alternative. Many of the same impacts associated with the preferred alternative would also be

expected under the preservation alternative, since the NPS designated management areas are identical under both alternatives. Therefore, moderate to major impacts associated with inconsistencies between designated residential and open space and low and moderate use intensity management areas would occur. The impact discussion under the preferred alternative provides a detailed description of each of the land use impacts associated with the preservation alternative.

Due to the decrease in the number of proposed facilities included in the preservation alternative compared to the preferred alternative, reduced land use impacts could be expected to occur within the specific facility locations, depending on the actual sites selected for facility construction. Negligible to minor or moderate to major impacts would still occur due to inconsistencies between designated open space and residential areas, respectively, and the high intensity management areas in which facilities would be located.

Potential moderate to major impacts associated with boundary studies under the preservation alternative are potentially greater under the preservation alternative as compared to both the no action and preferred alternatives. This increase is due, in part, to the larger potential expansion of the SMMNRA boundary to the north of Las Virgenes and Cheeseboro Canyons and into the Conejo Valley, located in Ventura County.

The mitigation measures discussed in the analysis of impacts section would reduce the expected impacts associated with the preservation alternative.

Population, Housing and Employment

ANALYSIS

Population, housing and employment projections for Ventura and Los Angeles

Counties are based on the Southern California Association of Governments Regional Comprehensive Plan (RCP). The growth forecasts were produced using an iterative process. Regional forecasts were disaggregated to counties, subregions, cities and small geographic areas. The model used to produce small area forecasts allocates growth to different areas based on their relative attractiveness. These forecasts were reviewed by local planning agencies (i.e., cities and counties) for consistency with zoning and local growth constraints such as topography, and adjusted to represent the best estimate of future growth.

Based on general plans for each of the participating local planning agencies, the steep terrain that characterizes the Santa Monica Mountains was cited as potentially undevelopable and often designated open space or, at most, the lowest residential density. Growth and development opportunities lie in the flat lands where vehicular access and public services are amply provided or easily extended. Local planning agencies use general plan policy and zoning regulations to discourage future residential, commercial, industrial and institutional development on terrain with physical constraints and natural resource value, a growth management approach reflected in the adjusted, published forecasts. The number of jobs created to staff new facilities would be small within the SMMNRA or surrounding region relative to the number of jobs in the region. Negligible impacts to population, housing, or employment would be expected because the number of jobs that would result from this alternative would not result in a detectable change to the employment opportunities in the region. For these reasons, selection of the preservation alternative is not likely to substantially alter local and regional population, housing and employment growth forecasts.

CUMULATIVE IMPACTS

Similar to the no action alternative, no cumulative impacts would be anticipated with implementation of the preservation alternative.

CONCLUSIONS

This alternative would not result in a change in population or housing within the SMMNRA or surrounding region. The number of jobs created to staff new facilities would be minimal within the SMMNRA or surrounding region. No mitigation measures are required.

Transportation

ANALYSIS

► Regional and Local Highway Network

In the preservation alternative several corridors would be designated as scenic corridors. These corridors would include PCH west of Malibu, Malibu Canyon Road, and Mulholland Highway west of Las Virgenes Road. Applying the scenic corridor designation to these corridors would not cause any significant increases in traffic volumes on any of the major corridors within the study area.

All of the roads within and near the SMMNRA would continue to provide for visitor access. Commuter traffic patterns would not change as a result of actions taken in this alternative. Traffic volumes and the level of service provided by the roads in the SMMNRA would be similar to the no action alternative.

The actions taken as part of this alternative would not produce any regionally significant traffic impacts. The significant traffic impacts occurring as a result of this alternative would be localized around the proposed education facilities. The preservation facilities and their related traffic impacts are described in Table 25.



Table 25

PRESERVATION ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Mugu Lagoon Visitor Education Center	The proposed facility would not generate any measurable amount of new vehicle trips, although it would generate several new bus trips per day. The proposed facility would have direct access from PCH including designated left and right turn lanes. A minor amount of traffic congestion would be created by traffic turning into and out of the site.
CSUCI Research and Information Facility	This facility on the outskirts of the SMMNRA would increase the volume of traffic on West Potrero and Potrero Roads and would increase the amount of traffic congestion at the major intersections along these corridors
Redesign Leo Carrillo Camp Ground	This action would not generate any new vehicle trips and would change the exiting traffic patterns in the area.
Paramount Ranch Film History Education Center	The proposed facility improvements would increase the number of visitors who stop at this location and create a minor increase in the traffic volume on Troutdale Road and the central portion of Mulholland Highway. It would also increase the amount of turning movements at the Troutdale/Mulholland intersection. It is estimated that this improved facility would generate about 100 new vehicle trips per day to this site including up to six buses. This increase in traffic would not change the Level of Service provided at the Troutdale intersection.
Gillette Ranch Joint Administrative and Environmental Education Center	This action would create a redistribution of the administrative trips that currently occur at the State Park and NPS headquarters. All of the NPS administrative trips that occur in the Thousand Oaks area would now occur on the roads leading to the Soka Site. The redistribution of the state park administrative trips would not dramatically change the traffic patterns in the area. The new education center would generate a minimal amount of new trips into the area including several bus trips per day. The net result of this action would be a minor increase in traffic volumes on Las Virgenes and Malibu Canyon Roads, and a moderate increase in traffic on a short segment of Mulholland between the intersection of Las Virgenes and the entrance to the Soka site. There would be an increase in the turning movements at the Las Virgenes/Mulholland intersection. This change would not result in a change in the Level of Service provided by the intersection. The traffic changes would not create any notable traffic congestion. The change would eliminate the turning movements that currently occur on Malibu Canyon Road at the existing state park headquarters site thereby reducing traffic congestion in that area.
Malibu Bluffs Coastal Marine Visitor Center	The creation of this new education center would create a small number of new trips into the area resulting in a negligible increase in traffic volumes on PCH. It is likely that this center would generate new school bus and tour bus activity in the range of four to six buses per day. Activity at the new center would increase the turning movements at the signalized intersection of Malibu Canyon Road and PCH. This would not change in the Level of Service provided by this intersection.
Education Day Camp	This action would result in one or two additional bus trips into the area per day during times when the camp is active. This would create a negligible increase in traffic on Franklin Canyon Drive and portions of Mulholland Drives. The overall traffic impacts would be negligible.

► **Public Transit**

The preservation alternative does not include any actions that would directly change the amount or type of public transit service being provided within the SMMNRA. Actions at several locations would help to promote transit use by providing better bus access and bus parking facilities. These locations include the Mugu Lagoon Visitor Education Center, Paramount Ranch, Gillette Ranch Joint Administration and Environmental Education Center, Malibu Bluffs Coastal Marine Visitor Center, and the WODOC.

Under the preservation alternative the NPS would continue the policy of encouraging and supporting others in the development of additional public transit options for visitors to the SMMNRA and commuters passing through the SMMNRA.

► **Parking**

New paved roadside pullout and parking areas would be created along the routes designated as scenic corridors. These new parking facilities would allow visitors to stop and enjoy the views and other recreational activities.

New paved parking areas would be constructed at the following locations: Mugu Lagoon Visitor Education Center, Paramount Ranch, Gillette Ranch Joint Administration and Environmental Education Center, Malibu Bluffs Coastal Marine Visitor Center, and the WODOC.

Bus parking would be provided at the 10 sites mentioned in the transit section above.

CUMULATIVE IMPACTS

The modifications proposed in the various action alternatives would only generate very small traffic volume increases. These slight increases would not create measurable amounts of traffic congestion or other related traffic impacts.

CONCLUSIONS

It may be desirable at some proposed visitor use sites to provide a designated left turn lane on the adjacent roadway to minimize traffic conflicts and make site access easier.

Public Services and Utilities

ANALYSIS

► **Public Services**

Under this alternative, the demand for fire protection services would be similar to or less than the demands discussed under the preferred and no action alternatives. The preservation alternative proposes the addition of or modification to several park facilities (e.g. Mugu Lagoon Visitor Education center, Paramount Ranch Film History Center, Gillette Ranch, Leo Carrillo State Beach Environmental Education Center and other visitor and educational camps).

According to the VSS and Los Angeles and Ventura Counties, who provide fire protection and emergency response services to the SMMNRA, the development of the new and modified park facilities could be served with no need for additional fire protection facilities or personnel. With respect to different management intensity areas (changes in land use policies) proposed as part of this alternative, approximately 80 percent of the park area would be designated as "low intensity" as compared to approximately 30 percent with the current conditions. Based on the land use designations proposed under this alternative, visitor access would be neither facilitated nor encouraged. Consequently, visitor use would be substantially reduced as compared to existing conditions. The increase in low intensity areas with the elimination of camping in the recreation area could be perceived as more "fire-defensible" than current conditions. Moreover, with the increase in low intensity areas, emergency events could be expected to decrease.



Based on the availability and capabilities of existing fire protection and emergency response systems to service the new park facilities, and an expectation that a change in land use policy (with a greater emphasis on low intensity areas) could result in a potential decrease in emergency events, only minor impacts to fire protection services are expected with this alternative. These impacts would be mitigated through increased fire awareness for park visitors, including signage and public information, and limiting storage of combustible, flammable materials onsite. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible.

Police protection services would be expected to remain similar to current service levels with implementation of this alternative. Because the majority of lands within the SMMNRA would be designated as low intensity areas, this alternative could result in a potential decrease in emergency events and consequently police protection needs. Based on the type of new park facilities, a substantial demand on police protection services would not be required and only negligible impacts would be expected. These impacts would be further reduced through NPS VSS consultation with the Los Angeles and Ventura County Sheriff Departments to ensure adequate police protection services. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible impacts. Future development would be required to examine the potential increase in demand for fire and police protection services, in conjunction with subsequent environmental review.

► **Water/Wastewater**

The preservation alternative proposes both decommissioning and development of several park facilities. Based on the proposed changes in park facilities under this

alternative, it would be expected that the demand for potable and non-potable water demands would be similar to or less than what is currently demanded. While the precise rate of water consumption for these facilities is not known, it is estimated that decommissioning facilities and emphasizing low intensity uses would result in a reduction in water supply consumption. In cases where facilities would be developed or modified, only a small increase in water demands compared to existing water demands would be required to support the proposed land uses and facilities. Based on discussions with the LVMWD, adequate water supplies and facilities currently exist to support the projected water demands of this alternative. With respect to wastewater services and facilities, the LVMWD could provide wastewater service to the new parkland uses within the SMMNRA. Based on the available capabilities provided by LVMWD, only negligible impacts to water and wastewater services are expected with the preservation alternative. These impacts could be further reduced by providing onsite groundwater wells, water storage, and onsite wastewater disposal systems as necessary during facility planning stages.

Future development would be required to examine the potential increase in demand for water and wastewater services, in conjunction with subsequent environmental review.

► **Waste Management**

Under the preservation alternative, the level of waste management service would be expected to ultimately decrease from current generation rates. Based on the changes in land uses and the plan to decommission facilities, it could be expected that waste generation would be reduced under this alternative. While a small increase in waste generation could be realized when facilities are decommissioned, or possibly as a result

of new but minor facility development, an overall reduction would be expected. Adequate solid waste capacity is available at regional waste management facilities. Based on the expected reduction in waste generation or the relatively small amount of solid waste generated as part of this alternative, plus the available capacity of regional landfill facilities, only negligible impacts to waste management services and facilities would be expected as a result of this alternative. These impacts would be further reduced through identifying the location of the nearest solid waste facility with capacity to handle additional waste flow and confirmation of available solid waste capacity for each facility at the planning stage.

► **Energy**

As discussed in the energy section of the Affected Environment chapter, energy resources applicable to this analysis include natural gas, electric energy and gasoline. This alternative would result in a relatively small increase in electric and natural gas consumption related to construction and demolition activities. The amounts of fuel used to implement this alternative would be considered negligible when compared to the consumption rate of the entire Los Angeles Basin. Moreover, the use of energy for facility construction would cease at the end of construction/demolition activities. Adequate electric and natural gas transmission facilities and capacity is available for land uses and facilities associated with this alternative. Based on the available facilities and adequate capacity, only negligible energy impacts are expected as a result of this alternative. These impacts would be further reduced through minimizing energy consumption on park lands, confirming availability of energy supply from local utilities, and possibly producing alternative energy supplies onsite (i.e., solar or individual generators).

CUMULATIVE IMPACTS

Cumulative impacts similar to those discussed under the no action alternative would occur with implementation of the preservation alternative and would remain significant for public services and solid waste capacity, and minor for water supply and energy.

CONCLUSIONS

Impacts under the preservation alternative would be negligible to fire and police protection services, as well as water wastewater supply waste management and energy.

The mitigation measures discussed in the analysis of impacts section would further reduce the level of impacts associated with the preservation alternative.

UNAVOIDABLE ADVERSE IMPACTS

Various negligible to minor adverse impacts have been identified after mitigation for soils and geology, water resources, flood plains, biological resources, paleontology, cultural resources, visitor experience, employment, and public services and utilities. These impacts are summarized in the “Analysis of Impacts” section in each resource discussion. The impacts are not expected to have an overall negative effect on the respective resources. Moderate to major impacts identified for the preferred alternative were related to visitor experience and land use.

Increased visitor use in areas where new facilities are developed is expected to cause increased traffic, crowding, and noise. This may have moderate adverse impacts to visitors that prefer to experience quiet and solitude.

Inconsistencies in locally designated land uses and NPS prescribed management areas would result in moderate and major adverse impacts to NPS proposed land use. Major

adverse impacts would occur where low use management areas overlap areas designated for residential development. Moderate to major impacts occur where moderate and high intensity use areas overlap with residential areas.

Irreversible/Irretrievable Commitment of Resources

There would be minor irreversible or irretrievable commitments of biological resources and cultural resources. Commitments would come from vegetation, wildlife habitat, or archeological resources lost to development of permanent facilities, and on-going maintenance of roads and trails.

Impacts identified for land use would involve permanent inconsistencies once areas designated for inconsistent development under local land use plans are developed. The management areas designated by NPS, however, would not result in irreversible/irretrievable commitment of resources. This would be because local land use decisions would continue to control development of property not owned by NPS. The preservation alternative would encourage limited short-term, primarily non-consumptive, uses of biological resources in the vicinity of seven developed facilities. These uses do not come at the expense of long-term productivity. Because this alternative provides for a restricted level of short-term uses of the SMMNRA, the constraints in this alternative on short-term uses would enhance the long-term productivity of the area to a higher level than the no action alternative. No other disciplines would be affected.

Education Alternative

NATURAL RESOURCES

Soils and Geology

ANALYSIS

► Soils

Direct and indirect adverse impacts on soils and geology are anticipated from facilities development in the education alternative. These impacts would be similar to the preferred alternative. The proposed facilities development in this alternative would be placed on disturbed sites and, therefore, would have direct impacts only on previously modified or disturbed soils. The new facilities are concentrated primarily in the central and western portions of the recreation area, with a visitor contact site near the eastern boundary of SMMNRA. In placing these facilities at already disturbed sites, there might be small areas of temporary adverse impacts from these activities due to cut and fill, grading, fire zone, and paving requirements. Impacts on soils and geology from facility development in this alternative are similar to the no action alternative; however, they affect a larger area due to the increased number of facilities. Impacts are anticipated to be short-term and minor or moderate without mitigation. These impacts are considered minor or moderate because construction sites would be small and localized, erosion would be limited to construction areas, and construction activities would be intermittent and temporary in nature. If these impacts occur in areas containing non-erodible soils, the effects would be perceptible, although their presence would not have an overall effect on soil resources in the SMMNRA. If, however, such impacts occur in areas with erodible

soils, a noticeable effect on area soil resources could occur and moderate impacts would result.

Adverse impacts on soils could result from disturbance or removal of soils from fire management, fire suppression, and trail maintenance. Higher visitor use could mean a possible increase in fire potential, which might create additional erosional soil losses. Fire risk could also increase once the scenic corridors are lengthened in the SMMNRA, especially in the central and eastern portions of the area. The risk of fire could increase within Topanga Canyon, Malibu Canyon, Kanan Dume Road, Decker Road, and canyons leading into the Cheeseboro/Palo Comado areas. These effects are expected to be minor to moderate because they would occur intermittently and temporarily due to emergency fire suppression activities or unexpected fires and would be limited to affected areas. Erosion due to visitor use would also be limited to the immediate area. Such impacts would be minor in areas with non-erodible soils or low intensities of visitor use because, although perceptible impacts may occur to soil resources due to slight erosion, these impacts would not have an overall effect on soil resources within the SMMNRA. Moderate impacts would be more likely to occur in areas with erodible soils or high visitor use due to the increased soil erosion and the increased potential for noticeable impacts that affect soil resources as a whole within the SMMNRA. Impacts on soil from fire management and facility development in the education alternative would be continual and minor to moderate; however the area of effect would be larger than the no action alternative, due to the increased number of facilities.

Increased soil erosion would result from increased visitor use. Despite local increases from the no action alternative due to the

increased number of facilities, the impact would be beneficial overall because of the larger proportion of low intensity areas. This increase in low intensity areas would curtail visitor use and subsequent soil erosion, although localized impacts would continue in high intensity areas and around facilities. The impacts are anticipated to be minor and on-going because they would be localized.

Erosion control measures such as sediment retention basins, silt fencing, or slope stabilization techniques would be included in all facility development-specific plans and would be implemented for surface disturbing activities, such as construction or trail maintenance. Adverse impacts on soils from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning and enforcement. Visitor management and visitor education would be effective in minimizing many potential impacts. Fire clearance and management zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs, should be effective in reducing the likelihood of visitor-caused fires. Mitigation measures would reduce impacts to minor or negligible.

Beneficial effects of the education alternative include reducing soil erosion by removing some recreation area-related development. This would involve eliminating some fire roads, and rerouting and revegetating trails in or near sensitive resources. The reduction of parking in some areas of the SMMNRA would potentially reduce runoff and decrease erosion. Decreased soil erosion from curtailed visitor use in low intensity areas is anticipated to be a moderate beneficial effect because the increase in the amount of land dedicated to low use intensity uses would decrease erosion in a large portion of the SMMNRA.

► **Geologic Hazards**

Unmitigated geologic hazards could impose potentially major long-term adverse impacts to public health and property after facilities development. The principal hazards within the SMMNRA are ground shaking, landslides, debris flows, and ground failures resulting from liquefaction. These impacts would be considered major because there would be a potential for substantial human safety risk and property loss. Seven proposed facility sites might be in areas that could suffer impacts from geologic hazards. The exposure to geologic hazard is greater than the no action alternative due to the increased number of facilities associated with the education alternative.

The primary mitigation for geologic hazards relative to proposed facilities development remains the same for all alternatives. Mitigation includes the avoidance of geologic hazard zones through careful siting of facilities and minimizing hazard impacts through careful design and construction practices. New facilities would be sited to avoid geologic hazard zones. New facilities and the modification of existing facilities would be designed and constructed in compliance with all applicable state and federal building code standards. All grading and construction plans would be submitted to qualified technical staff within the administering agencies for geologic and geotechnical review prior to approval.

A qualified geologist would conduct geotechnical and geologic hazard investigations prior to project implementation with a focus on projects in areas of concern. Such areas include projects involving hillside terrain, proximity to active or potentially active faults, proximity to landslides and areas of possible liquefaction. New facilities would be sited to avoid geologic hazard zones. New facilities and the modification of existing facilities would be designed and

constructed in compliance with all applicable state and federal building code standards. Avoidance of geologic hazard zones would reduce impacts to minor.

CUMULATIVE IMPACTS

Cumulative impacts to soil and geologic resources from the education alternative would be similar to those described for the no action alternative and would continue to be minor, as identified in the listed project documents. Though more facilities would be developed under the education alternative compared to the no action alternative, proposed facility locations would be localized and dispersed throughout the SMMNRA and are not expected to increase cumulative impacts. Increasing the proportion of areas of low intensity use would have a minor beneficial effect on the cumulative environment.

CONCLUSIONS

Minor to moderate short-term impacts on soils and geology from facility development in this alternative are similar to the no action alternative but would affect a larger area due to the increased number of facilities. With the rehabilitation of existing recreation area developments, impacts of erosional soil loss should be beneficial. Impacts on soil from fire management and facility development in this alternative would potentially be greater than from the no action alternative, but would remain moderate. The removal of developments would potentially reduce erosional soil losses and downstream siltation. The reduction of parking in some areas of the SMMNRA would potentially reduce runoff and decrease erosion.

Similar to previous alternatives, geologic hazards could impose major adverse impacts to public health and property as a result of facilities development. This alternative includes more facilities and improvements

than the no action alternative and would therefore increase potential exposure to geologic hazards.

Mitigation measures discussed in the analysis of impacts section would reduce impacts for soils and geologic hazards to minor.

Soil resources and exposure to geologic hazards on privately held land would largely depend upon local enforcement of land use and building permits by other local agencies.

Water Resources

ANALYSIS

The education alternative would have adverse and beneficial effects on water resources within the SMMNRA. By reducing the high intensity areas, the main sources of water pollution are reduced. This would be a moderate beneficial effect on the water resources. However, the proposed facilities (such as the education centers and campgrounds) might adversely impact the streams and rivers and would require mitigation. The potable water supply for new developments would need careful consideration in detailed designs to ensure extraction does not remove too much water to affect downstream aquatic life.

Impacts from the proposed facilities could include an increase in the runoff volumes and rates from these areas, which could potentially cause streambed and bank erosion, habitat scour, and benthic smothering from the increased flows. In addition, runoff from these areas could contain pollutants such as hydrocarbons and heavy metals from vehicles that are common in road runoff. These pollutants could cause a moderate short- and long-term adverse impacts on aquatic life in the streams and rivers. These impacts would be moderate because fuel or sewage spills could potentially affect the quality of waterways and water

bodies within the SMMNRA. They would occur only intermittently and would be temporary, however, and would be limited to the area surrounding construction sites or septic tanks. The area of effect of these impacts would be greater than the no action alternative, due to the increased number of facilities.

Direct short-term minor impacts could occur during construction phases of the proposed facilities. Clearing vegetation during construction and grading activities leaves soils exposed to erosion during rainfall, and these could impact the stream turbidity and suspended sediment levels which could affect light penetration and visibility in the streams. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas. Accidental spills of fuel and other automotive fluids could occur during the servicing of construction equipment and could impact waterways if these activities are conducted near waterways or without berms or other means of secondary containment. Increased use of unsealed tracks and roads may also result in erosion risk. Impacts from the increased use of unsealed tracks/roads and other activities associated with increased visitor use and trail management activities could be moderate. Septic systems that are not properly located, designed and constructed could also cause moderate short- and long-term impacts to surface or ground water. The area of effect would be greater than the no action alternative, due to the increased number of facilities.

Mitigation of these impacts would be applied in two phases, during construction and longer term, more permanent measures. Mitigation during construction would be



achieved through development of a construction stormwater management plan by a qualified professional that would emphasize careful planning of activities to minimize soil disturbance, and recommend on-site temporary water treatments, such as silt fences and sedimentation ponds. The plan would be prepared for all construction activities affecting one or more acres and would include best management practices such as temporary on-site water treatments, such as silt fences and sedimentation ponds. Fueling and servicing of construction equipment would not occur within 100 feet of a waterbody or drainage area unless adequate spill control/containment is provided. These measures retain pollutants on-site and reduce the downstream impacts of construction.

Longer-term mitigation of potential impacts for the proposed facilities would include some treatment of the runoff from developed areas to reduce pollutants such as toxicants from vehicles or pathogens from restroom facilities from reaching the waterways. A qualified engineer within the administering agencies would conduct a soils and engineering evaluation to support the location and design of all septic system repairs, upgrades, and installations. The permanent mitigation measures would be planned and designed as part of the detailed design of the proposed facilities. Impacts after mitigation would be minor.

The proposed campgrounds or trail camps could result in moderate impacts to water resources by increasing pathogen levels in the waterways and posing a threat to aquatic and human health. Mitigation of these impacts would be through planning the location of the restroom facilities and associated septic systems to minimize the delivery of pathogens to surface water. Erosion control measures such as sediment retention basins, silt fencing, or slope stabilization techniques would be employed to reduce the erosion

risks. Impacts to water resources from campground facilities would be reduced to minor after mitigation.

Another impact from the trail campsites and other developments would be the extraction of potable water. The source of drinking water for these camps would need to be considered carefully, as removing too much water may result in widespread and substantial degradation of water flow and habitat quality. These would be considered moderate adverse impacts to the aquatic life in the stream. The availability of good quality drinking water might determine the feasible size of camps and would need to be considered carefully in the detailed design phase. Impacts could be reduced to minor after mitigation.

CUMULATIVE IMPACTS

Cumulative impacts to water resources from the education alternative would be similar to those described for the preferred alternatives and would remain moderate, as identified in the listed project environmental documents.

CONCLUSIONS

Overall, the education alternative would have a minor adverse impact on the water resources of the area, provided appropriate mitigation measures are employed and maintained. There might be some moderate beneficial effects of the educational proposal by reducing visitor numbers to parts of the recreation area, and by closing and restoring some tracks in the area. The mitigation measures discussed in the analysis of impacts section would decrease these impacts to minor intensities.

Flood Plains

ANALYSIS

The major drainages/flood plains in the SMMNRA, as described in the Affected Environment chapter, include Calleguas

and Malibu Creeks as well at the Arroyo Sequit stream located inside Leo Carrillo State Beach. The education alternative proposes the following facilities and uses in the vicinity of these flood plains that either include modified/new structures or would increase the access to and extended duration of activities (especially over night) in the flood plains.

- Mugu Lagoon Visitor Education Center and CSUCI Research and Information Facility are located in the vicinity of the Calleguas Creek flood plain,
- Circle X Ranch Overnight Camp, Leo Carrillo State Beach campground redesign, and the Decker Canyon Accessible Overnight Education Center are located in the vicinity of the Arroyo Sequit stream flood plain.
- Paramount Ranch, Peter Strauss Ranch Area, White Oak Ranch Living History Museum, Gillette Ranch Joint Administration and Environmental Education Center, Northern Gateway Visitor Center, Park & Ride, and large screen theater, Las Virgenes Environmental Learning Center, and the Malibu Bluffs Coastal Education Center are located in the vicinity of the Malibu Creek flood plain.

Additionally, this alternative includes areas designated as high intensity use that encompass the Calleguas and Malibu Creek flood plains as well at the Arroyo Sequit stream flood plain.

The specific location for the structures and use areas for facilities listed above has not been determined. Therefore, it is not possible to identify the intensity or severity of the impacts at this time. However, locating structures/extended use areas for one of the proposed facilities within the 100-year flood plain, would result in long-term moderate adverse impacts because it would increase access to the flood plain and provide

for the construction of facilities within the flood plain. These actions would increase the potential for loss of life or property through increased potential for flooding. Locating structures/extended use areas for more than one facility in the 100-year flood plain would result in major long-term adverse impacts because the potential for flood damage would increase even further. These impacts could be reduced through mitigation. During siting of structures and use areas for proposed facilities in the vicinity of a flood plain, an engineering evaluation would be conducted by a qualified engineer to identify the boundaries of the 100-year flood plain. Unless infeasible, structures and use areas would be located outside the flood plain boundaries. Facilities and trails within the 100-year flood plain would be closed 24 hours prior to a predicted 50-year, 24-hour storm even. NPS would use various warning systems and would patrol use areas within the flood plain prior to and during storms to assure that these areas are not occupied. For example, VCFCD has operated a flood warning system since February 1979. The system is called "ALERT", an acronym for Automated Local Evaluation in Real Time, which was developed by the National Weather Services. In addition, signage would be provided at the flood plain boundary on trails and access roads alerting park users that they are about to enter an area prone to flooding during wet weather conditions.

The education alternative includes changing intensity use designations from high or medium to low in the area of the Calleguas and Malibu Creeks as well at the Arroyo Sequit stream flood plains. These features would reduce access to and duration of activities in the flood plain and would have moderate beneficial effects.

CUMULATIVE IMPACTS

The education alternative could contribute substantially to cumulative impacts to flood



plains, but would be the sole source of local cumulative impacts, similar to the no action alternative.

CONCLUSIONS

The education alternative could result in potentially moderate adverse long-term impacts related to the above facilities and the designation of high intensity use that encompasses the Calleguas and Malibu Creeks and Arroyo Sequit stream flood plains. Moderate beneficial effects would result from changing current high and medium intensity use areas to low in the area of the Calleguas and Malibu Creeks and Arroyo Sequit stream flood plains. The actual intensity of adverse impacts cannot be determined until the specific facility locations are determined. The mitigation measures discussed in the analysis of impacts section would reduce the adverse impacts related to flood plains to minor.

Biological Resources and Wetlands

ANALYSIS

■ Vegetation

Direct and indirect adverse impacts on vegetation in the education alternative would be approximately equivalent to the no action alternative in the areas where 16 development sites would be placed. The specific biological resources affected by the development of projects within this alternative would be presented in separate NEPA documentation prepared for each project, although some general consequences might include the impacts discussed in the following paragraphs and sections.

The proposed facilities development would be placed on disturbed sites and, therefore, would have direct impacts only on previously modified or ruderal vegetation, and presumably would not affect native vegetation. The new facilities would be concentrated primarily in the central and western portions of the recreation area, with

a visitor contact site near the eastern boundary of SMMNRA. In placing these facilities at already disturbed sites, there may be small areas of temporary adverse impacts from these activities due to cut and fill, grading, fire zone, and paving requirements. The vegetation currently occupying the development sites would presumably be ruderal prior to implementation of the development plan, and, therefore, would not result in elimination of additional native vegetation. However, there may be small fringe areas of native vegetation around the disturbed site that would be removed during construction. These impacts would be very localized and located only on the edges of sensitive populations, and therefore of minor to negligible intensity. Impacts on native vegetation from facility development in this alternative are similar to the no action alternative. With the rehabilitation of existing SMMNRA developments, effects on the acreage of native vegetation, in balance, should be beneficial.

Adverse impacts to native vegetation could also result from requirements of fire management zones around developed structures. Local land use agencies would enforce fire suppression zone requirements around visitor facilities that require the removal of natural vegetation in a wide fire suppression zone. For example, Los Angeles County ordinances require that a 200-foot suppression zone be established around any structures built under its jurisdiction. Visitor uses, albeit much of it children in school programs, would be greatly increased in this alternative in comparison with the no action alternative. An increase in unplanned fires resulting from higher visitor use would occur, and would pose an increased potential hazard to native vegetation, especially in the areas adjacent to the new development. Examples of impacts would be the removal (burning) of vegetation in backfire areas, or removal of vegetation in areas where temporary

flow/erosion control structures would incidentally displace riparian vegetation during storms. During these emergency activities, the loss of habitat or individuals of sensitive plant and animal species may be unavoidable. These emergency actions could create negligible to major impacts, depending on the extent of sensitive species that would need to be replaced, as discussed above. However, during routine planning for fuel management and trail maintenance activities, adverse effects on sensitive vegetation would be avoided or mitigated to minor, depending on the extent of sensitive species that would need to be replaced, as described above.

The length of the scenic corridor roads in the SMMNRA would be considerably increased within the central and eastern portions of the recreation area. This would increase the risk of fire in healthy stands of native vegetation within Topanga Canyon, Malibu Canyon, Kanan Dume Road, Decker Road, and canyons leading into the Cheeseboro/Palo Comado areas. Impacts on native vegetation from fire management and facility development in this alternative would potentially be considerably greater than from the no action alternative due to the systematic increase and enhancement of visitor use in the SMMNRA. For biota living near roadways, the intensity of this impact could range from moderate to major because fires along these segments could penetrate core habitat areas that support populations of sensitive species, but this alternative could increase the likelihood of fires throughout the park.

Beneficial effects of the education alternative include rerouting and revegetating trails in or near sensitive resources and reconfiguring roads. This would reduce the intensity of impacts on rare, threatened, endangered, or otherwise sensitive species found in the SMMNRA. In balance with recreation area-related development, the amount of native

vegetation in SMMNRA would likely increase as new facilities are rehabilitated.

About 75 percent of the SMMNRA area would be designated as a low intensity area where visitor access to sensitive resources would be neither facilitated nor encouraged. The low intensity areas would be generally surrounded by moderate intensity areas, which would act as buffers between the low intensity areas and the higher use areas. The buffering would be required at a much-reduced scale in comparison to the no action alternative because the number of visitors is expected to decrease, which in turn would obligate fewer buffers.

The primary mitigation for proposed facilities development is to avoid undisturbed native vegetation through careful siting of facilities. New development would be sited in previously disturbed areas which would normally support stands of exotic vegetation, thereby avoiding or minimizing impacts on undisturbed native vegetation. All grading and construction plans would be submitted to the administering agencies for review prior to approval. Areas temporarily disturbed during construction would be recontoured and revegetated with appropriate native plant species. Appropriate fire-suppression zones would be maintained around developed structures. Erosion control measures such as sedimentation basins, silt fencing or slope stabilization techniques would be implemented for surface-disturbing activities, such as construction or trail maintenance. Pre-project surveys would be conducted by a qualified biologist prior to project implementation in the appropriate season for listed plant species, as well as other species of federal or state concern (Table 13). These surveys would be used in site planning of facilities to avoid sensitive species. The administering agencies would consult with the USFWS and CDFG if any listed species or its habitat might be affected during a proposed action. Compliance with California



law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes. Monitoring by a qualified biologist is required for surface-disturbing activities in, or in close proximity to, sensitive vegetative resources (e.g., wetlands, listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

Adverse impacts on vegetation from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning. Visitor management and visitor education programs, which would be developed and presented in the NEPA documentation for each project, would be effective in minimizing many potential impacts. Fire clearance zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs and focusing on fire hazards in educational programs, should be effective in reducing the likelihood of visitor-caused fires and their resultant impacts. If vegetation is lost or disturbed from any activity, the area would be rehabilitated or revegetated with species from an appropriate native plant palette, or would be closed or relocated to less sensitive sites. The scenic corridor routes in the education alternative are longer and more numerous

than in the no action alternative, and a focus on posting fire hazard signs and providing fire hazard education in these areas would be appropriately increased in comparison with the no action alternative. Undergrounding utilities that could potentially cause accidental ignitions could offset other fire dangers.

The education alternative includes the provision of recommended boundary changes in the northcentral and northeastern portions. The northcentral additions, connecting with Cheeseboro/Palo Comado Canyons, would potentially provide significant additional protection to vegetation in the linkages within both Los Angeles and Ventura Counties. The no action alternative does not include this provision. If these proposed boundary changes are implemented, the education alternative could potentially substantially increase the protection of vegetation along the northern boundaries of the SMMNRA, providing for additional linkages to other open spaces, and at minimum, for archipelago linkages to other habitat linkages to the north.

In general, mitigation measures would be effective in avoiding or minimizing loss of natural vegetation, and permanent loss in the preservation areas would be minor as result of the education alternative. In contrast to the no action alternative, there would likely be a net gain of native vegetation acreage as recommended boundary changes were implemented. Because the majority of the lands within the SMMNRA would be designated for low intensity use, impacts on biological resources throughout the recreation area would be reduced to minor or negligible from levels expected in the no action alternative. The increase in lands designated as low intensity areas and the elimination of camping in a larger portion of the recreation area, would greatly reduce the risk of fires, and their resultant impacts, in the moderate and low intensity areas.

■ **Wildlife**

Facilities development would have direct, localized impacts on some wildlife species, especially those that are adapted to the use of disturbed habitats. Removal of such disturbed habitat would affect some wildlife, but such species would primarily be non-native. A few species of small mammals, birds, reptiles, and amphibians would be permanently or temporarily displaced during construction activities. Adjacent populations could be adversely affected as displaced wildlife attempt to inhabit off-site areas where other individuals are already established. Considering the number of facilities that would be developed in this alternative, there is little potential for losses of habitat available for endangered, threatened, rare or sensitive species of wildlife in this alternative. Impacts on wildlife from facility development in this alternative are similar to the no action alternative and would range from negligible to major. Minor impacts would occur if only a small, localized portion of the sensitive population is affected because such effects would not substantially alter the ability of the species to survive in the area. These impacts would increase to major intensities, however, as more widespread or higher proportions of the populations were affected, thereby affecting the ability of the species as a whole to thrive in the region. With the removal and rehabilitation of existing recreation area developments, effects on the acreage of habitat available for wildlife, in balance, should be beneficial.

Direct impacts include disturbance of soils supporting vegetation during facilities development, trampling or removal of vegetation, and disturbance of wildlife activities and habitat around campgrounds, especially for species that are sensitive to the presence of humans. Indirect effects from visitor use would include disruption of wildlife activities for some species where the

activities take place along trails. Species that are particularly sensitive to human activity in close proximity to water sources, for example, might avoid water sources as a result of visitor activity. This would include many of the large mammal predators, such as mountain lions, bobcats, coyotes, and badgers. Because the acreage of low intensity use would be increased in this alternative, such interactions with larger wildlife should be less frequent compared to the no action alternative. Impacts from visitor use along major roadways and scenic corridors in the education alternative, however, would be considerably higher than in the no action alternative. Overall, these impacts could range from minor to major, depending on levels of visitor use and proximity to sensitive resources. Minor impacts were expected in low intensity use areas and where disturbance is away from sensitive areas. Major impacts would occur in high intensity use areas where sensitive species are present.

Construction planning and monitoring by a qualified biologist in areas supporting sensitive wildlife would reduce or prevent some impacts. Pre-project surveys would be conducted prior to project implementation in the appropriate season for listed species, as well as other species of federal or state concern (see Table 14). A qualified staff member of the administering agency would review all grading and construction plans prior to approval. Using the information collected during pre-construction surveys, the administering agencies would consult with the USFWS and CDFG in the detailed planning phase of a project, if any listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes.

Monitoring by a qualified biologist would likely be required for surface-disturbing activities in or in close proximity to, sensitive wildlife resources (e.g., listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

► **Habitat Connectivity**

Implementation of the education alternative would enhance the existence and connectivity of undisturbed habitats in the SMMNRA by creating large expanses of open space, with a fairly continuous connection along the entire east/west axis of the recreation area, all designated as a low intensity area. About 75 percent of the SMMNRA would fall into this category. Areas of moderate intensity area designation would occur primarily along scenic corridors. The scenic corridor designation would be expanded into the interior of the low intensity areas, including Topanga Canyon Boulevard, Malibu Canyon Road, Kanan Dume Road, and Decker Road. This would increase the risk of fire in the eastern three fourths of the SMMNRA, putting sensitive resources there at more risk. This risk would be of major intensity near roadways, and of moderate intensity in other areas, as discussed above under vegetation.

The education alternative, which includes recommended boundary changes and land transfer from the Department of Defense to the Department of the Interior, would increase the connectivity of habitats along the northern border of the current recreation area boundaries, from Hidden Valley, eastward to the Cheeseboro/Palo Comado Canyons area, and along the entire western edge of the current SMMNRA boundaries, including Mugu Lagoon. Such large expanses of natural habitat would promote healthy populations of numerous wildlife species, including sedentary species such as lizards, mice, rabbits, and insects, to name a few. It also would provide large areas and territories for use by larger, more mobile species, such as coyotes, gray foxes, passerine birds, and deer. This would be a moderate to major beneficial effect, as it enhances the ability of these species to increase their regional distribution, exchange genes, and therefore increase their viability as a species. The proposed configuration of increasing low intensity use areas in the western portion of the SMMNRA could reduce impacts on specific wildlife species from human activities by perhaps one or more levels of intensity for many species. These reductions would be major to moderate, moderate to minor, minor to negligible, when compared to the no action alternative.

As with the no action alternative, the primary mitigation to offset impacts from new development would be to avoid sensitive habitats and habitat linkage areas through careful project siting. A qualified biologist within the administering agencies would evaluate all proposed actions for their effects on habitats and on habitat connectivity to avoid or mitigate further habitat fragmentation. New developments would be excluded from existing wildlife corridors, or minimized to the greatest

extent practicable, to ensure the continued exchange of genes and individuals between wildlife populations within and adjacent to the SMMNRA. Degraded habitats within conserved linkage areas would be restored. The most effective means of maintaining habitat connectivity is through the maintenance of sufficiently wide (greater than 400 feet) habitat linkages between major blocks of habitat. The feasibility of retrofitting wildlife underpasses where primary roads intersect with wildlife movement areas within the recreation area would be considered in the NEPA documentation prepared for projects that might affect habitat linkages within their sphere of influence.

■ Wetlands

Several of the proposed facilities included in the education alternative would be located in close proximity to wetland resources:

- **The Mugu Lagoon Visitor Education Center**– would be sited between PCH and the lagoon within an already disturbed upland site. This facility includes a perimeter boardwalk for visitor viewing of the lagoon and associated wildlife.
- **The Circle X Ranch**– includes a substantial riparian area located adjacent to existing developed areas and trails
- **Leo Carrillo State Beach campground** is located within a major drainage and riparian area. The rehabilitation of this facility would be focused toward relocating selected campground activity areas away from riparian areas to allow for riparian habitat enhancement and restoration.
- **Decker Canyon**– would become an accessible overnight and day use environmental education center and camp.

- **Corral Canyon**– would have an overnight environmental education camp.
- **Paramount Ranch**– has a substantial riparian area that bisects it. Existing access through this riparian area would be maintained.

Impacts to wetland resources associated with this alternative are considered to be potentially minor to moderate and short-term. Facilities would be located near, but not within, wetlands, whenever feasible. Impacts to wetland range from minor to major. Minor impacts would be expected with uses adjacent to wetlands that have a slightly perceptible impact on wetland value or function but are localized or affect only edge habitats on non-sensitive species. Major impacts could occur, however, if a facility or visitor use area is located within a wetland and substantially decreases its function or value. The impacts under this alternative would be mostly associated with linear infrastructure improvements and would be minimized by avoidance to the extent practical. Major impacts to wetland resources are not expected because impacts associated with facility construction would be localized and sited outside wetland boundaries.

Wetlands and riparian habitats are considered sensitive resources to be conserved and enhanced wherever practicable. New facilities would be sited away from wetlands wherever practicable. A detailed wetland delineation in accordance with ACOE protocol would be conducted by a qualified biologist prior to site engineering so that this information could be used during the site design process. New facility infrastructure (water, sewer, roads, trails) would avoid wetland resources where upland alignments are available. Upland buffers between wetlands and facilities would be provided wherever practicable.

Where existing facilities require long-term maintenance or enhancement (e.g. Circle X Ranch), siting of infrastructure improvements would minimize impacts to wetland resources wherever practicable. Existing disturbed areas within the drainage reach associated with the facility would be utilized where avoidance of wetland impacts is not practicable. Opportunities to restore and enhance disturbed wetland resource areas adjacent to facilities would be identified during the site design process. Closure of selected roads and trails would provide opportunities for wetland restoration. Unavoidable impacts to wetland resources would be fully mitigated through the 404/401 and 1603 wetlands permitting process, which emphasizes avoidance and minimization of impacts prior to considering compensatory mitigation.

CUMULATIVE IMPACTS

The minor adverse cumulative impacts of the education alternative would be similar to those described under the no action alternative. The education alternative would also have the benefits described in the preferred alternative, due to the large proportion of the SMMNRA that would be dedicated to low use intensity management areas.

CONCLUSIONS

In contrast to the no action alternative, the education alternative would result in a net gain of wetland and other native vegetation acreage, as recommended boundary changes were implemented. Because the majority of the lands within the SMMNRA would be designated for low intensity use, impacts on biological resources and wetlands throughout the recreation area would be reduced from levels expected in the no action alternative but would still range from negligible to major, depending on the extent and sensitivity of

species impacted. The increase in lands designated as low intensity areas and the elimination of camping in a larger portion of the recreation area would greatly reduce the risk of fires, and their resultant impacts in the moderate and low intensity areas.

Facilities development would have direct, localized adverse impacts on some wildlife species, especially those that are adapted to use of disturbed habitats. There is little potential for decreases in the habitat available for endangered, threatened, rare or sensitive species of wildlife in this alternative. Impacts on wildlife from facility development in this alternative are negligible to minor, similar to the no action alternative. With the rehabilitation of existing recreation area developments, impacts on the acreage of habitat available for wildlife, in balance, should be beneficial. Visitor uses, such as horseback riding and mountain biking, would be mostly eliminated from low intensity areas in this alternative. This would be a moderate long-term beneficial effect on biological resources and wetlands.

Implementation of the education alternative would greatly enhance the existence and connectivity of undisturbed habitats in the SMMNRA. The scenic corridors would be expanded into the interior of the low intensity areas, including Topanga Canyon Boulevard, Malibu Canyon Road, Kanan Dume Road, and Decker Road. This expansion would increase the risk of fire in the eastern three fourths of the SMMNRA. The education alternative, which includes recommended boundary changes and land transfers from the Department of Defense to the Department of the Interior, would increase the connectivity of habitats along the northern border of the current recreation area boundaries, from Hidden Valley, eastward to the Cheeseboro/Palo Comado Canyons area, and along the entire western edge of the current SMMNRA boundaries, including

Mugu Lagoon. The mitigation measures discussed in the analysis of impacts section would reduce adverse impacts to biological resources and wetlands to minor.

Paleontology

ANALYSIS

Impacts to paleontologic resources would be much the same under the education alternative as under the preferred alternative. Most of the facilities would be placed in previously disturbed areas, effectively reducing the level of impacts. Enhancement of facilities associated with scenic corridors would result in direct moderate adverse impacts to paleontologic resources. Reconfiguring some recreation area-related developments and roads could also result in moderate adverse short-term impacts to the extent that undisturbed sediment of moderate to high paleontologic potential is affected. Limited disturbance of deposits with moderate to high paleontological potential would result in a perceptible impact that would be considered a moderate impact. Completion of the Backbone Trail would result in long-term adverse impacts to paleontologic resources by exposing to erosion sediments of high to moderate paleontologic sensitivity. Increased visitor use under this alternative would result in an increased frequency of unauthorized collection of paleontologic specimens, which constitutes a minor adverse impact because facilities and high use intensity areas would be likely to encompass only limited deposits with moderate to high paleontological potential.

As with other alternatives, mitigation of impacts to paleontologic resources would be achieved by recovering their scientific data potential and educational potential. A qualified paleontologist would determine the paleontologic sensitivity of affected sediments

during the administering agency's geological and geotechnical review of grading and construction plans. If excavation were to occur in sediments that have high to moderate paleontologic sensitivity, monitoring by a qualified paleontologist would be required during excavation. If fossils were discovered, construction would be halted in the immediate vicinity of the find until they were removed in a scientifically controlled fashion by a qualified paleontologist. These measures would reduce impacts to a minor level. Public education implemented by the administering agency addressing the scientific and educational importance of fossils, and promoting enhanced awareness of enforcement of California State and NPS non-collection policies, constitute additional mitigation of impacts to paleontologic resources.

The beneficial effects of the education alternative include a broader capability of the SMMNRA to educate the public regarding the scientific value of fossils, and of the geologic and ecological history of the Santa Monica Mountains.

CUMULATIVE IMPACTS

Cumulative impacts of the education alternative would be localized and minor, similar to those described under the preferred alternative, and would remain minor as identified by the listed project documents.

CONCLUSIONS

Moderate short-term impacts to paleontologic resources would be much the same under the education alternative as the preferred alternative. Most of the facilities would be placed in previously disturbed areas, effectively reducing the level of impacts. Enhancement of facilities associated with the scenic corridors would result in direct minor and moderate adverse impacts to paleontologic resources. The mitigation



measures discussed in the analysis of impacts section are recommended for all alternatives and would reduce adverse impacts to minor.

CULTURAL RESOURCES

ANALYSIS

The emphasis of component actions under the education alternative would be weighted toward the protection and restoration of important natural resource(s), such as removing development to restore the Mediterranean ecosystem. Conflicts in the management of cultural and natural resources might result in impacts to cultural resources if, in the resolution of such conflicts, it was determined that the importance of protecting and rehabilitating natural resources superseded that of the cultural resources. Chapter 5 of the National Park Service's *Management Policies* (1988) permits the planning process to make this decision:

Achievement of other park purposes may sometimes conflict with and outweigh the value of cultural resource preservation. The planning process will be the vehicle for weighting conflicting objectives and deciding that a cultural resource should not be preserved. Following such a decision, significant resource data and materials will be retrieved.

Impacts to cultural resources resulting from such decisions, however, would be mitigated to the fullest extent possible in accordance with the Secretary of the Interior's guidelines, and in conformance with Section 106 of the NHPA and appropriate requirements of CEQA. As a result, such impacts would be kept to negligible levels. Higher levels of visitation, stimulated by the SMMNRA's emphasis on enhanced environmental education and outreach programs, might render some of the recreation area's cultural

resources more susceptible to degradation. However, implementation of this alternative could significantly enhance the interpretive/educational components of the recreation area's cultural resource management program, which could increase public sensitivity to the importance of the resources, and potentially limit impacts by instilling a greater understanding and appreciation of the resources. The development of stewardship programs could limit the destructive effects of vandalism through increased public involvement and awareness. The SMMNRA's outreach policy, which includes conducting programs for school children, could be significantly expanded under this alternative, incorporating more information and values about cultural resources in the curriculum. This would help build an enlightened constituency that would benefit the recreation area and resource preservation in the future.

The acquisition of lands or interests in lands by SMMNRA would benefit cultural resources by extending the protection of federal ownership to those lands. Viewsheds that are potential components of cultural landscapes in those areas might also be afforded greater protection from incompatible development adjacent to SMMNRA boundaries. As a result, no impacts would occur through these actions. Administering agency staff would continue to work with neighboring landowners and jurisdictions to ensure, to the extent feasible, that adjacent land management practices would not impair the recreation area's cultural resources, viewsheds, or distant vistas.

Archeological Resources

Archeological resources would be protected from the effects of development and visitor use, where possible. However, sites would remain susceptible to natural deterioration,

inadvertent damage by human activity, and vandalism in areas further removed from the purview of recreation area staff. Some sites would eventually be lost. Further deterioration or destruction of archeological sites in the recreation area by natural forces or human activity would result in the loss of resource values associated with the prehistory and history of the region. Such impacts are expected to be negligible because this alternative would not increase public accessibility to archeological sites in the SMMNRA. With appropriate mitigation, these impacts could be further reduced.

Rerouting existing trails away from known archeological resources would afford such resources more protection from inadvertent damage by human activity and vandalism. Mandated compliance with Section 106 of the National Historic Preservation Action, and where applicable with CEQA, which require a program of inventory, evaluation, and assessment, would ensure that adequate consideration and protection are accorded to potential archeological resources. If archeological resources were discovered during construction activities, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and their significance assessed, and if necessary, appropriate mitigation undertaken. Such measures could include avoidance or data recovery. If human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed.

Prior to the implementation of construction, the APE for cultural resources would be defined, a record review conducted and a pedestrian survey completed by a qualified archeologist. Mitigation measures, including avoidance or data

recovery, would be proposed if resources are identified, and the SHPO would be afforded the opportunity to consult on measures for cultural resources protection and mitigation of adverse impacts. Monitoring by a qualified archeologist and a Native American Indian representative would accompany any ground disturbing construction. In the case of any unanticipated discoveries, all ground-disturbing activities in the vicinity would be stopped until the significance of the find is determined.

Management plans would incorporate measures to reduce or eliminate indirect impacts to cultural resources to negligible levels. Such measures might include restrictions on access, signage, visitor education, or data recovery.

Historic Structures

Implementation of the education alternative would not impact the three historic structures within the recreation area's boundaries that are listed on the National Register of Historic Places – the Adamson House, Loeff's Hippodrome (on Santa Monica Pier), and the Will Rogers House. The existing management and use of the structures would remain unchanged, and existing levels of visitation are not expected to appreciably increase. Although visitor use to such structures would be limited, minor impacts resulting from continued visitation of the Adamson House, Loeff's Hippodrome and the Will Rogers House might occur, due largely to wear-and-tear and routine maintenance activities. These impacts would be considered minor because they are localized and gradual. Management practices employed by the NPS agencies following the guidelines listed below, and including use of appropriate maintenance and repair materials and supplies, however, would minimize effects, keeping impacts at a negligible level.



To preserve and protect the many historic structures of SMMNRA that are either listed in, or potentially eligible for, listing on the National Register of Historic Places, all preservation and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would continue to be conducted in accordance with the National Park Service's *Management Policies* (1988) and *Cultural Resource Management Guideline* (1996), and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Making historic structures accessible to the physically challenged, to comply with the Architectural Barriers Act of 1968 and the Rehabilitation Act of 1973, could result in the loss of historic fabric or the introduction of new visual and non-historic elements. For example, the doorways of buildings could require widening and ramps or the addition of wheel chair lifts to the exterior of buildings. These impacts would be considered moderate because they would potentially involve only a few components of sites with high data potential. To avoid impacts to the historic values of these structures, historic architectural studies and plans for modification would be developed to reduce damaging the historic integrity of structures and ensure the highest levels of compatibility possible. All plans would follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995), and would be reviewed by the SHPO and concerned preservation societies prior to implementation of any changes. These impacts would be kept to a minor level.

Actions undertaken to minimize erosion along historic roads and trails would be implemented in a manner that would preserve the integrity of these cultural resources. Such measures would include use of historic building materials or concealment of erosion control structures using historic landscape features, in keeping with the

Secretary of the Interior's Standards for the Treatment of Historic Properties (1995). As a result, such impacts would be negligible.

■ **Cultural Landscapes**

Additional uses and developments might be introduced into some of the recreation area's cultural landscapes. The expansion and/or improvement of existing visitor centers and interpretive facilities, or construction of new structures, parking areas, trailheads and trails, and picnicking and camping sites, could impact the cultural landscapes of the SMMNRA by disrupting or destroying historic settings and other characteristics of integrity. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. The careful design of facility improvements, including consultation with qualified staff and Native American Indian groups, and the use of compatible materials in the construction of new facilities, interpretive waysides, or trails, would minimize impacts to cultural landscapes.

Though potentially significant cultural landscapes would be protected and preserved, continued visitor use could result in increased erosion and vandalism, accelerating the degradation of landscape features and elements such as roads and trails, structures, fence rows, and orchards. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. However, the SMMNRA interpretive and educational programs would increase visitor appreciation of the resources and how they are preserved and managed, as well as provide an understanding of how to experience such resources without inadvertently damaging them. The designation of Mulholland Drive, Topanga

Canyon Boulevard, Malibu Canyon Road, Kanan Dume Road, Decker Canyon Road, and the Pacific Coast Highway as scenic corridors would encourage public interest in the corridor and its associated resources. Designation as either a heritage corridor or cultural landscape could foster increased awareness and recognition of these routes as a historic resource. At the same time, such designations would also likely generate increased traffic, which could create major impacts that would include widespread and highly noticeable deterioration of setting, feeling, and other aspects of integrity. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource could be provided to reduce or eliminate these impacts. Such measures would include traffic volume control, parking control, and expanded transit options.

■ Ethnography

On-going consultation with concerned Native American Indian groups has incorporated ethnographic resource values into the planning process. Impacts to known ethnographic sites could therefore be avoided or, if avoidance is not possible, mitigated. Some sites, however, might remain susceptible to natural deterioration, inadvertent damage by human activity, and vandalism. These impacts would be considered moderate because they could potentially result in a perceptible degradation of a Native American site with moderate to high historic data potential. Such impacts, however, are expected to be negligible after mitigation.

Supporting Native American Indian participation in the interpretation of ethnographic resources would continue to expand the interpretation of the ethnographic resources of the SMMNRA. Such actions

would enhance the ability to protect and preserve ethnographic resources and continue the traditional cultural practices, as well as increase appreciation of traditional cultures.

■ Component Actions

Component actions that are incorporated under the education alternative are listed below, along with their potential impact on cultural resources and the mitigation measures that could minimize those impacts. In many instances, however, the presence or absence of cultural resources has not yet been ascertained. As a result, the intensity of impacts cannot be determined at this time.

1. Visitor use of the recreation area would be managed such that the intended use intensities of the land would be:

75 percent, moderate 20 percent, high

5 percent.— The high percentage of land designated as low intensity use, and the low percentage designated for high intensity use, would increase the protection afforded to cultural resources by decreasing impacts associated with visitor activities compared to the no action alternative. No mitigation efforts for historic properties are necessitated by this component action. Devices used to limit visitor access would stress the protection of the natural and cultural resources of the recreation area.

Inventory of federal lands under Section 110 of the NHPA would continue, while compliance with Section 106 of the NHPA, consisting of inventory, evaluation, and impact assessment, would be followed for all planned undertakings in these areas.

2. Trails are to be retained, but would be rerouted in the vicinity of sensitive areas to avoid those areas—Rerouting of trails away from sensitive areas could increase the level of protection afforded to

historic properties in those areas. However, other sensitive cultural resources might be revealed during trail construction and might be adversely affected by construction activities. These impacts could range from negligible to major, depending on the data potential of affected sites and visitor use intensity. The following mitigation measures are recommended:

✓ A qualified archeologist would conduct a cultural resources inventory, evaluation, and assessment program before all trail construction. If any resources are identified, mitigation measures such as avoidance or data recovery, would be implemented. Native American Indian groups would be consulted regarding appropriate mitigation of potential impacts to cultural landscapes and places of traditional or sacred significance. To the extent possible, the trail would be constructed to avoid or minimize impacts to the traditional values of such places. As a result, such impacts are expected to be negligible.

- 3. *Parking would be gravel or on permeable surfaces wherever feasible*** – To the extent that paved parking surfaces could seal and protect buried cultural resources, gravel or permeable-surface parking areas would afford less protection in the same area. Lack of protection under this action, however, would be negligible. The following mitigation measure is recommended:

✓ A cultural resources inventory, evaluation, and assessment program conducted by a qualified archeologist would precede all grading and construction. If resources are identified, such mitigation measures as avoidance or data recovery would be conducted.

- 4. *The western boundary down to the toe of the Santa Monica Mountains escarpment is to be studied for inclusion in the recreation area boundary.*** – Inclusion of this area within the SMMNRA would have no effect on the protection of cultural resources, given that the land is already under federal ownership. Inventory of cultural resources within newly acquired land would be required in conformance with Section 110 of the NHPA. No mitigation efforts for cultural resources would be necessitated by this component action.
- 5. *The eastern portion of the Mugu Lagoon would be considered for land transfer from the Department of Defense to the National Park Service*** – Inclusion of this area within the recreation area would have no effect on the protection of cultural resources, given that the land is already under federal ownership. Inventory of cultural resources within newly acquired land would be required in conformance with Section 110 of the NHPA. No mitigation efforts for cultural resources would be necessitated by this component action.
- 6. *The open space east of Hidden Valley, the area around the Las Virgenes Reservoir, Marvin Braude Mulholland Gateway Park, Burro Flats, Castle Peak, and some of the open areas around Agoura Hills would be studied for inclusion in the recreation area as a moderate intensity area.*** – Inclusion of these areas within the SMMNRA would increase the level of protection of cultural resources by bringing them into federal ownership, and the expanded area would act as a buffer for resources in the SMMNRA. Inventory of cultural resources within newly acquired land would be required in conformance with Section 110 of the NHPA. No mitigation efforts for cultural resources would be necessitated by this component action.

7. A day camp would be located at Rancho Sierra Vista to provide educational programs concerning contemporary and traditional Native American Indian culture and to interpret ranching history

– This area comprises a historic Chumash village and a cultural landscape. Without appropriate consultation, educational programs concerning Native American Indian lifeways might be seen as an infringement on traditional cultural values. Ground-disturbing activities or other construction necessary for the creation of the day camp might impact contributing elements of the cultural landscape, and/or buried cultural deposits, while increased visitation might result in effects from increased erosion, inadvertent damage, or vandalism. These impacts, however, are expected to be negligible due to the control over visitor activities at the site. The following mitigation measures are recommended:

✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions (e.g., new facilities, facility enhancements, campgrounds, etc.) that might affect cultural resources. The administering agencies would consult with concerned Native American Indian groups to assist in developing measures to ensure that this program is developed in a manner consistent with respect for Native American Indian beliefs, traditions, and other cultural values. A qualified archeologist would conduct a program of inventory, evaluation, and impact assessment prior to any ground disturbing activities. If resources are identified, mitigation of impacts through avoidance, data recovery, access restriction, and visitor

education would be conducted. New design should be compatible with existing facilities.

8. Circle X Ranch would become an overnight environmental education camp, with expanded facilities for group camping

Circle X Ranch is near a historic Native American Indian settlement. Expansion might require land clearing and/or ground-disturbing construction activities that might impact archeological resources, while increased visitation might result in effects from increased erosion, inadvertent damage, or vandalism. Such impacts, however, are expected to be negligible because they would be localized and would be focused outside of the cultural site boundary. The following mitigation measures are recommended to ensure that impacts are kept to negligible levels:

✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions that might affect cultural resources.

✓ The administering agencies would consult with concerned Native American Indian groups to ensure that this program is developed in a manner consistent with respect for Native American Indian beliefs, traditions, and other cultural values.

✓ A qualified archeologist would conduct a program of inventory, evaluation, and impact assessment prior to any ground disturbing activities. If resources are identified, a qualified archeologist would develop a program to mitigate impacts through avoidance, data recovery, access restriction, and visitor education.



9. Decker Canyon would become an overnight and day use environmental education center and camp.

– The Decker Homestead is a cultural landscape and significant archeological properties might be present in the vicinity. Construction and other ground-disturbing activities necessary for the creation of the center might impact contributing elements of the cultural landscape, and/or potential buried cultural deposits, while increased visitation might result in effects from increased erosion, inadvertent damage, or vandalism. The impact would be considered major because it would affect an entire site with high archeological data potential. To ensure that impacts are kept to minor or negligible levels, the following mitigation measures are recommended:

- ✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions that might affect cultural resources.

- ✓ The administering agencies would also consult with concerned Native American Indian groups to ensure that this program is developed in a manner consistent with respect for Native American Indian beliefs, traditions, and other cultural values.

- ✓ A qualified archeologist would conduct a program of inventory, evaluation, and impact assessment prior to any ground disturbing activities. If resources are identified, mitigation of impacts through avoidance, data recovery, access restriction, and visitor education would be conducted.

10. The Peter Strauss Ranch would host small art exhibits, concerts, fund-raises, and family events. Circulation and parking improvements would be necessary. – The

Peter Strauss Ranch is a historic property and a cultural landscape. Construction and other ground-disturbing activities necessary for parking improvements might directly impact contributing elements of the cultural landscape, and/or potential buried cultural deposits, while increased visitation might result in indirect effects from increased erosion, inadvertent damage, or vandalism. These impacts, however, are expected to be negligible because they would remain localized and would affect only individual components of the site. The following mitigation measures are recommended:

- ✓ National Register nomination forms need to be completed and the Peter Strauss Ranch listed on the National Register. Proposed modifications need to be reviewed by an historical architect.

- ✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions that might affect cultural resources.

- ✓ A qualified archeologist and historical landscape architect would conduct a program of inventory, evaluation, and impact assessment prior to any ground disturbing activities. If resources are identified, mitigation of impacts through avoidance, data recovery, access restriction, and visitor education would be implemented.

11. Paramount Ranch would include facilities for a film history education center. Parking and circulation would be improved. –

Paramount Ranch is a historic property and has been determined a significant cultural landscape eligible for listing on the National Register of Historic Places. Any construction or reconstruction might cause the alteration, removal, or

destruction of original materials that contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is recommended:

✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through HABS/HAER documentation, reconstruction using historically appropriate materials, or similar measures in accordance with the secretary of the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

12. A visitor center would be located at Highway 101 and Las Virgenes Road.

The center would be located in an existing building just outside of the recreation area boundary. No historic properties would be impacted. No mitigation efforts for historic properties are necessary.

13. The White Oak Farm would offer exhibits interpreting early ranching in southern California.

– The White Oak Farm is a historic property. Construction activities necessary for parking improvements might directly impact contributing elements of the cultural landscape, and/or potential buried cultural deposits, while increased visitation might result in indirect effects from increased erosion, inadvertent damage, or vandalism. These impacts, however, are expected to be negligible because they would remain localized and would affect

only individual components of the site. The following mitigation measures are recommended:

- ✓ Recommend that CDPR evaluate for National Register eligibility.
- ✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions that might affect cultural resources.
- ✓ A qualified archeologist would conduct a program of inventory, evaluation, and impact assessment prior to any ground disturbing activities. If resources are identified, mitigation of impacts through avoidance, data recovery, access restriction, and visitor education would be implemented.

14. The National Park Service and California State Parks would have a jointly operated administration and education center located at Gillette Ranch.

– Gillette Ranch is a historic property located near a historic Native American Indian settlement. Any construction to accommodate this component action might cause the alteration, removal, or destruction of materials contributing to its historic significance. Depending on the nature and extent of new construction and the data potential of affected sites, resulting impacts to this property could be moderate to major in intensity. It is likely, however, that joint management activity could also promote the more effective management of the cultural resources of the SMMNRA. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed by a qualified archeologist prior to the finalization of plans associated with this facility, to

assess the potential to adversely impact archeological deposits in this area. If resources are identified, mitigation through avoidance or data recovery would be undertaken.

✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. In the event that any unanticipated resources are encountered, all construction in the vicinity would be halted until the significance of the land is evaluated and an appropriate course of action developed. Concerned historic preservation groups would be consulted and their input incorporated into the management plan for this facility.

15. An overnight environmental education camp would be established at Corral Canyon.

Establishment of the camp might require land clearing and/or construction associated with facilities improvements. As a result, construction or other ground-disturbing activities necessary for parking improvements might impact cultural resources present in the area, while increased visitation might result in effects from increased erosion, inadvertent damage, or vandalism. Depending on the nature and extent of new construction and the data potential of affected sites, resulting impacts to this property could be moderate to major in intensity. The following mitigation measures are recommended to ensure that impacts are kept to negligible levels:

✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions that might affect cultural resources.

✓ A qualified archeologist would conduct a program of inventory,

evaluation, and impact assessment prior to any ground disturbing activities. If resources are identified, mitigation of impacts through avoidance, data recovery, access restriction, and visitor education would be implemented.

16. 415 PCH (Marion Davies Home) would be rehabilitated and serve as an eastern gateway to the recreation area.

The Marion Davies home is a historic property. Any construction or reconstruction might cause the alteration, removal, or destruction of original materials that contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is recommended:

✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of any property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures would include avoidance, data recovery through HABS/HAER documentation, reconstruction using historic materials, or similar measures in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

17. The Mugu Lagoon Visitor Education Center would be located at the western-most end of the recreation area off of the Pacific Coast Highway.

The proposed site would be located in a previously disturbed area. A historic Native American Indian settlement of considerable cultural significance is located in the vicinity and unidentified components of this site might be present in the proposed site area. If intact but

unidentified subsurface deposits are present, construction activities might impact them during the course of ground-disturbing activities. The impact would be considered major because it would affect an entire site with high archeological data potential. As a result, further development in the area would be of concern to Native American Indians. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed by a qualified archeologist prior to the finalization of plans associated with this facility, to assess the potential to adversely impact archeological deposits in this area. If resources are identified, mitigation through avoidance or data recovery would be undertaken.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would also accompany any ground-disturbing activities. In the event that any unanticipated resources are encountered, all construction in the vicinity would be halted until the significance of the land is evaluated and an appropriate course of action developed.
- ✓ To assist with visitor education, the Mugu Lagoon Visitor Education Center would include information on traditional lifeways and the significance of the settlement of Muwu to the cultural history of the area.

- 18. The campground at Leo Carrillo State Beach would be rehabilitated to integrate the campground with natural riparian processes** – The rehabilitation of natural riparian processes could enhance the value of the area as a cultural landscape. However, historic properties might be directly impacted if rehabilitation involves subsurface disturbance. Such

impacts, however, are expected to be negligible to minor because of the low probability of such impacts affecting a site with high data potential. No mitigation would be required for activities that do not involve ground disturbance. The following mitigation measure is recommended to ensure that impacts are kept to negligible levels:

- ✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures could include avoidance or data recovery.

19. A visitor center would be located at Malibu

Bluffs. – Malibu Bluffs is an urban area and is in proximity to a historic Native American Indian settlement. A minimal potential exists that construction-related ground disturbance might impact possible intact subsurface cultural deposits. Because of the minimal potential for affecting previously undisturbed archeological deposits with high data potential, these impacts would be considered minor. The following mitigation measures are recommended:

- ✓ Prior to the implementation of construction, the APE for cultural resources would be defined, a record review conducted, and a qualified archeologist would conduct a pedestrian survey of any exposed ground. Mitigation measures, including avoidance or data recovery, would be proposed if resources are identified, and the SHPO would be afforded the opportunity to consult on measures for cultural resources protection and mitigation of adverse impacts.



✓ Monitoring by a qualified archaeologist and a Native American Indian would accompany any ground-disturbing construction. In the case of any unanticipated discoveries, all ground-disturbing activities in the vicinity would be stopped until the significance of the find is determined.

20. The educational day camp program at the William O'Douglas outdoor education center located in Franklin Canyon would be expanded.

– If this expansion involves no subsurface disturbance to enlarge or improve facilities, no impacts to cultural resources are anticipated. However, Franklin Canyon is a cultural landscape, and a historic Native American Indian settlement has been reported in the vicinity. Should expansion require land clearing and/or ground disturbance, those activities could moderately impact elements of integrity contributing to the significance of the cultural landscape and/or effect historic properties such as the reported settlement. The following mitigation measures are recommended:

- ✓ A cultural resources inventory, including subsurface exploration, would be completed by a qualified archeologist prior to the finalization of plans associated with this facility, to assess the potential to adversely impact archeological deposits in this area. If resources are identified, mitigation through avoidance or data recovery would be undertaken.
- ✓ Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. Concerned historic preservation groups would be consulted and their input incorporated into the management plan for this facility.

21. Mulholland Drive, Topanga Canyon Boulevard, Pacific Coast Highway/Malibu

Canyon Road, Kanan Dume Road, Ventura Boulevard, and Decker Canyon Road to be designated as scenic corridor

– Road and parking area improvements might be necessary and the construction activities associated with these actions could affect cultural resources. Designation as scenic corridors would also likely generate increased traffic, which could create impacts such as deterioration of setting, feeling, and other aspects of integrity. These impacts are expected to be negligible due to the existing disturbed character of the area and the limited additional access that would occur to undisturbed cultural sites. The following mitigation measure is recommended:

- ✓ All road improvements would be preceded by a cultural resources investigation conducted by a qualified archeologist, inclusive of inventory, evaluation, and impact assessment, followed by mitigation, if resources are identified. Such measures would include avoidance or data recovery. The documentation that would accompany designation would provide information that could be integrated into the management of this resource. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource from indirect impacts could be provided to reduce or eliminate these impacts. Such measures would include traffic volume control, parking control, and expanded transit options. As a result, impacts are expected to be negligible.

22. Simi Hills would be managed as a historic ranching landscape

- ✓ All road and trail improvements would be preceded by a cultural resources investigation conducted by a qualified historical landscape architect or

archeologist, inclusive of inventory, evaluation, and impact assessment, followed by mitigation, if necessary. Such measures would include avoidance or data recovery. The documentation that would accompany designation would provide information that could be integrated into the management of this resource. This potentially significant cultural landscape needs to be evaluated for listing on the National Register. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource from indirect impacts could be provided to reduce or eliminate these impacts. Such measures would include traffic volume control, parking control, and expanded transit options. As a result, impacts are expected to be negligible.

CUMULATIVE IMPACTS

The education alternative would result in similar negligible cumulative impacts to cultural resources as discussed under the no action alternative.

CONCLUSIONS

The education alternative offers a fairly high level of protection to historic properties, providing for a designation of 75 percent of lands as low intensity, 20 percent as moderate intensity, and 5 percent as high intensity. The potential for cultural resources to be at risk by project impacts and required mitigation would be somewhat less than at the present level, given the high percentage of lands designated for low intensity use, although negligible to major adverse impacts from component actions would likely occur. These adverse impacts would be reduced to negligible levels with the mitigation discussed in the analysis of impacts section.

VISITOR EXPERIENCE

ANALYSIS

Under the education alternative, visitor experiences generally would reflect experiences described under the preferred alternative. Visitor use would increase in the vicinity of new facilities. Increased traffic, crowding, and noise would have moderate adverse impacts to visitors that prefer quiet and solitude. These moderate impacts could be reduced to minor by guiding visitors to high use areas and encouraging visitor use during less busy times. However, educational experiences available to visitors would be greatly enhanced under this alternative, which would have a moderate beneficial effect on visitor experience.

At Circle X Ranch, Decker Ranch, and Corral Canyon, visitors to the SMMNRA would have opportunities to learn about natural and cultural resource issues and sustainable use of park resources during overnight camping excursions to the park. Other visitor opportunities unique to this alternative include fine arts programs at the Peter Strauss Ranch, a large-screen theatre and visitor orientation center in the vicinity of Highway 101 and Las Virgenes/Malibu Canyon Road, a film history education center at Paramount Ranch, education programs at White Oak Farm, and management and interpretation of Simi Hills as a historic ranching landscape. This increase in educational programs would provide more destinations for visitors to the recreation area, and more opportunities to learn about the park resources. This would allow a better understanding of the significance of SMMNRA, increase enjoyment of the park, provide more than a recreational experience, and increase the protection of park resources. Rather than a tour shuttle as in the preferred and preservation alternatives, audio tours would be created for touring Mulholland



Highway, Topanga Canyon Boulevard, PCH, Malibu Canyon Road, Kanan Road and Decker Canyon Road. Audio tours would possibly provide a minor beneficial effect for those who prefer their own vehicle. However the distractions of traffic and curvy roads would detract from the visitor experience and would be considered a moderate impact. This impact could be reduced to minor by limiting opportunities for parking outside of designated parking areas and providing adequate parking at, or alternative transportation to, high intensity use areas.

Visitor experiences in low intensity areas under this alternative would reflect similar major beneficial effects as those described under the preferred and the preservation alternatives. Restrictions on uses of areas currently managed for moderate intensity use may have moderate adverse impacts on visitors that enjoy multi-use trails and camping. Impacts could be reduced to minor by improving existing trails, and creating new trails and camping areas in remaining moderate intensity use areas.

CUMULATIVE IMPACTS

Though review of available environmental analysis documents for the current and planned projects described in the cumulative impacts methodology section did not identify significant cumulative impacts to visitor experience that would result from these projects, these projects would increase development, human presence and residential areas adjacent to and within the SMMNRA. Cumulative impacts of the education alternative are similar to those described for the preferred alternative except that the emphasis on education would increase public awareness of the fragile nature of the Santa Monica Mountains. Visitors would have additional opportunities to learn about SMMNRA resources that would lead to increased visitor understanding and enjoyment of the recreation area. Adverse cumulative impacts would be moderate.

CONCLUSIONS

There would be more destinations for learning about park resources for the visitor in the education alternative. Also, this alternative would offer camping for groups in the park at designated educational facilities. For school groups and some visitors, all the new educational opportunities would positively affect their experience. Approximately 80 percent of the park would be managed as a low intensity area. Mitigation measures for reducing impacts related to increased visitor use and restricting activities in areas previously dedicated to moderate intensity uses would reduce adverse impacts to minor and are discussed in the analysis of impacts section.

LAND USE AND SOCIOECONOMIC ENVIRONMENT

Land Use

ANALYSIS

The education alternative would redirect the NPS park services and facilities toward environmental education, appealing to the general public and school systems. The majority of proposed facilities would serve an educational purpose. Overnight educational camps would be available to groups. Existing trails would be maintained or rerouted to avoid sensitive habitat areas. In such cases, the abandoned trail would be restored to its natural condition. Certain fire access roads might also be abandoned and the land restored to its natural condition. Parking facilities in support of recreational facilities would be installed, using gravel or compacted soil wherever feasible. Overall, 75 percent of land within the SMMNRA would be designated under a low intensity management approach, while only 5 percent would be maintained under a high intensity management approach, as illustrated in Figure 8 – Education Alternative.

The education alternative is similar to both the preferred and preservation alternatives, with slight shifts from low to moderate intensity management areas concentrated around the Charmlee Natural Area and west of Topanga Canyon Road, just south of Mulholland Drive. Because both low and moderate management areas are inconsistent with residentially designated land uses and result in similar land use impacts, impacts in low and moderate use intensity management areas under the education alternative would be similar to those described in the impact analysis for the preferred alternative. In some areas with low density residential development, shifts from low to moderate management areas under the education alternative may reduce some previously major impacts to moderate. However, because the ultimate density of development is difficult to project in these areas, these reductions in impacts cannot be concluded with certainty.

The land use inconsistencies between locally designated residential areas and low and moderate use intensity management areas could be partially mitigated by close coordination between NPS and local jurisdictions during land development policy and plan amendment processes to increase the consistency of land use management approaches.

High use intensity management areas would occupy five percent of the total SMMNRA area under the education alternative, but would be distributed throughout the SMMNRA differently than under the preferred and preservation alternatives. The impacts analysis discussion under those alternatives applies to the education alternative. Each of the facilities would be located within either designated residential or open space areas and the total high intensity use area within the SMMNRA is similar. High intensity management areas under the education alternative would be

surrounded by both designated open space and residential land, as described under the no action alternative. As discussed in the no action alternative impact analysis, high intensity management areas are inconsistent with residential development, and would result in moderate to major impacts, depending on the type of facility or use and the surrounding residential development density.

Negligible to minor impacts would occur in high use management areas that are already designated open space by local land use authorities, depending on the focus of the open space area for urban recreation or resource protection. Negligible impacts would result from high use management areas if an open space area has the primary goal of urban recreation because such uses/facilities would not substantially detract from the existing use of the area. More substantial impact could be expected if an open space area is dedicated to resource protection, however, because additional development and/or use could diminish the role of the open space to protect natural resources. However, these impacts would remain minor since the high use intensity designation and facility development would only occur on already disturbed or highly used sites, or at the perimeter of the parkland, and would therefore not greatly decrease the value of the open space. In addition, high use intensity areas are not located adjacent to any locally designated habitat preservation areas, which minimizes the potential for impact to protected natural resources due to visitor use in high intensity areas or facilities. Activity within the SMMNRA would also be controlled, and would afford a higher level of protection than areas under local control. While all of the areas described under the preferred alternative, except the Las Virgenes Canyon site, would continue to be inconsistent with open space designations under the education alternative, the Charmlee Natural Areas



would also be considered inconsistent under the education alternative. These impacts would be partially mitigated through the design of access within high use intensity management areas to direct visitor use away from areas primarily designated for resource protection.

Boundary studies proposed under the education alternative would include some of those previously discussed under the preferred and preservation alternatives. A number of the boundary studies proposed under the preferred alternative would be evaluated and included in the education alternative, including the expansion of the SMMNRA boundary to the west toward CSUCI, north into the Calleguas Creek watershed, and north at the Marvin Braude Mulholland Gateway Park. The impacts associated with the boundary studies described in the preferred alternative impact analysis would also potentially occur with implementation of the education alternative. An additional boundary study, which would extend the SMMNRA around Stone Canyon in the city of Los Angeles, is also proposed under the education alternative. Impacts associated with the potential expansion are included in the impact analysis discussion for the preservation alternative.

CUMULATIVE IMPACTS

Cumulative impacts are similar to those described under the no action alternative and would remain major. Although the education alternative proposes a number of additional park facilities, they would be located throughout the project area and would not contribute to the overall development of the region.

CONCLUSIONS

The education alternative is similar to the preferred and preservation alternatives, with slight shifts of low use intensity management areas to moderate use intensity zones. Many

of the same impacts associated with the preferred and preservation alternatives would also be expected under the education alternative, since the NPS designated management areas are only slightly different under each alternative. The extent of the impacts would vary slightly, with greater areas of inconsistency between moderate use management areas and residential designations and correspondingly less areas with inconsistencies between low use intensity management areas and locally designated residential land. Moderate to major impacts associated with inconsistencies between designated residential and open space and low, moderate, and high use intensity management areas would occur.

Potential impacts associated with boundary studies under the education alternative would be similar to those identified with the preferred alternative. Potential inconsistencies in locally designated land uses compared to NPS prescribed management areas would be potentially major, and greater than the no action alternative.

In general, while the general land use impacts would remain similar to those described under the preferred and preservation alternatives, slight shifts in moderate to major impacts would be expected under the education alternative due to the difference in area dedicated to low use intensity management.

Mitigation measures discussed in the analysis of impacts section would reduce the expected impacts associated with the education alternative.

Population, Housing and Employment

ANALYSIS

The education alternative is reviewed in light of population, housing and employment projections for Ventura and Los Angeles Counties. The projections are based on

the Southern California Association of Governments RCP. The regional growth forecasts were disaggregated to counties, subregions, cities and small geographic areas. The model used to produce small area forecasts allocates growth to different areas based on their relative attractiveness. These forecasts were reviewed by local planning agencies (i.e., cities and counties) for consistency with zoning and local growth constraints such as topography, and adjusted to represent the best estimate of future growth. The adjusted forecasts are used as the basis for review of each alternative, including the education alternative.

The general plans for each participating local planning agency identified the steep terrain of the Santa Monica Mountains as potentially undevelopable and often designated such land “open space” or, in some cases, the lowest residential density. Growth and development opportunities lie in the flat lands where vehicular access and public services are amply provided or easily extended. Accordingly, local planning agencies use general plan policy and zoning regulations to discourage future residential, commercial, industrial and institutional development on terrain with physical constraints and natural resource value, a growth management approach reflected in the adjusted, published forecasts. The number of jobs created to staff new facilities would be small within the SMMNRA or surrounding region relative to the number of jobs in the region. Negligible impacts to population, housing, or employment would be expected because the number of jobs that would result from this alternative would not result in a detectable change to the employment opportunities in the region. For these reasons, selection of the education alternative is not likely to alter local and regional population, housing and employment growth forecasts.

CUMULATIVE IMPACTS

Similar to the no action alternative, no cumulative impacts would be anticipated with implementation of the education alternative.

CONCLUSIONS

This alternative would not result in a change in population or housing within the SMMNRA or surrounding region. The number of jobs created to staff new facilities would be minimal within the SMMNRA or surrounding region. No mitigation measures are required.

Transportation

ANALYSIS

► Regional and Local Highway Network

In the education alternative several corridors, in addition to Mulholland Highway and Mulholland Drive, would be designated as scenic corridors. These corridors would include PCH, Decker Road, Encinal Canyon Road, Kanan Dume Road, Kanan Road, Malibu Canyon Road, Las Virgenes Road, and Topanga Canyon Boulevard. Applying the scenic corridor designation to these corridors would not cause any significant increases in traffic volumes on any of the major corridors within the study area.

All of the roads within and near the SMMNRA would continue to provide for visitor access. Commuter traffic patterns would not change as a result of actions taken in this alternative. Traffic volumes and the level of service provided by the roads in the SMMNRA would be similar to the no action alternative.

The actions taken as part of this alternative would not produce any regionally significant traffic impacts. The significant traffic impacts occurring as a result of this alternative would be localized around the



proposed education facilities. The education facilities and their related traffic impacts are described in Table 26.

Under this alternative the NPS would continue the policy of encouraging and supporting the removal of street lighting and power poles from the corridors within SMMNRA.

► **Public Transit**

The education alternative does not include any actions that would directly change the amount or type of public transit service being provided within the SMMNRA. Actions at several locations would help to promote transit use by providing better bus access and bus parking facilities. These locations include: the Mugu Lagoon Visitor Education Center, Circle X Ranch; Decker Canyon Accessible Overnight Education Center, Peter Strauss Ranch, Paramount Ranch, Corral Canyon Overnight Education Center, Gillette Ranch Joint Administration and Environmental Education Center, Northern Gateway Visitor Center, Malibu Bluffs Coastal Education Center, and the WODOC.

Under this alternative the NPS would continue the policy of encouraging and supporting others in the development of additional public transit options for visitors to the SMMNRA and commuters passing through the SMMNRA.

► **Parking**

New paved roadside pullout parking areas would be created along the routes that would be designed as scenic corridors. These new parking facilities would allow visitors to stop and enjoy the views and other recreational activities.

New paved parking areas would be constructed at the following locations: Mugu Lagoon Visitor Education Center, Peter Strauss Ranch, Paramount Ranch, Gillette Ranch Joint Administration and Environmental

Education Center, Northern Gateway Visitor Center, Malibu Bluffs Coastal Education Center, and the new Visitor Contact Site at the Marion Davies Home.

Bus parking would be provided at the ten sites mentioned in the transit section above

CUMULATIVE IMPACTS

The modifications proposed in the various action alternatives would only generate very small traffic volume increases. These slight increases would not create measurable amounts of traffic congestion or other related traffic impacts.

CONCLUSIONS

It may be desirable at some proposed visitor use sites to provide a designated left turn lane on the adjacent roadway to minimize traffic conflicts and make site access easier.

Public Services and Utilities

ANALYSIS

► **Public Services**

Under this alternative, the demand for fire protection services would be similar to, or slightly higher than, current service demands. The education alternative proposes facility development in 16 areas within the park boundaries. According to the VSS and Los Angeles and Ventura Counties, who provide fire protection and emergency response services to the SMMNRA, the development of the new and modified park facilities could be served with no need for additional fire protection facilities or personnel. With respect to different management intensity areas (changes in land use policies) proposed as part of this alternative, approximately 75 percent of the park area would be designated as “low intensity” as compared to approximately 30 percent with the current conditions. The increase in low intensity areas could be perceived as more “fire-defensible” than current conditions.

Table 26

EDUCATION ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Mugu Lagoon Visitor Education Center	The proposed facility would not generate any measurable amount of new vehicle trips, although it would generate several new bus trips per day. The proposed facility would have direct access from PCH including designated left and right turn lanes. A minor amount of traffic congestion would be created by traffic turning into and out of the site.
CSUCI Research and Information Facility	This facility on the outskirts of the SMMNRA would increase the volume of traffic on West Potrero and Potrero Roads and would increase the amount of traffic congestion at the major intersections along these corridors.
Expansion of Satwiwa Native American Indian Cultural Center	The expansion of the existing facility would generate a minor amount of new vehicle trips into the area on days when major activities are scheduled. This action would result in a minor increase in traffic on Potrero Road.
Expand Circle X Education Camp	Expansion of the camp would result in a minor number of new vehicle trips in this portion of the SMMNRA including one or two new bus trips. This expansion would create a negligible increase in traffic volumes on Little Sycamore Canyon Road, and Yerba Buena Road.
Redesign Leo Carrillo Camp Ground	This action would not generate any new vehicle trips and would change the exiting traffic patterns in the area.
Decker Canyon Accessible Overnight Education Center	Creation of this new facility would generate a minor amount of new vehicle trips per day into the area on days when programs are occurring. This would result in a negligible increase in traffic volumes on Decker Road, the western portion of Mulholland Highway, and Westlake Boulevard.
Peter Strauss Ranch Event Area	This action would create a minimal increase in traffic on the central portion of Mulholland Highway and some minor traffic congestion resulting from vehicle turning into and out of the site. The sight distance at the site entrance would be improved as part of the proposed improvements.
Paramount Ranch Film History Education Center	The proposed facility improvements would increase the number of visitors who stop at this location and create a minor increase in the traffic volume on Troutdale Road and the central portion of Mulholland Highway. It would also increase the amount of turning movements at the Troutdale/Mulholland intersection. It is estimated that this improved facility would generate about 100 new vehicle trips per day to this site including up to six buses. This increase in traffic would not change the Level of Service provided at the Troutdale/Mulholland intersection.
Corral Canyon Overnight Education Camp	This new facility would result in the development of a new access from PCH. As part of the access development the sight distance near the entrance would be improved and both left and right turn lanes would be added to PCH. The new facility would generate a minor amount of new vehicle trips into the area during the summer and on weekends, including one or two bus trips per day. This development would result in a negligible increase in traffic volumes on PCH. It would also create turning movements on PCH at the entrances. This new facility would create minimal traffic impacts in the vicinity of the site access on PCH.
White Oak Farm History Museum	This new facility would generate a negligible amount of new traffic into the area including one or two bus trips per day. This action would not create any measurable traffic congestion or impacts.

EDUCATION ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Gillette Ranch Joint Administrative and Environmental Education Center	This new facility would be developed on the Soka University site, which is on the south side of Mulholland just east of Las Virgenes Road. The administrative functions (and the related traffic) that currently occur at the State Park District Headquarters, located one half mile south of the proposed site, would be relocated to the Soka site. The NPS Headquarters and Visitor Center currently located in Thousand Oaks would also be relocated to the Soka site. This action would create a redistribution of the administrative trips that currently occur at the State Park and NPS headquarters. All of the NPS administrative trips that occur in the Thousand Oaks area would now occur on the roads leading to the Soka Site. The redistribution of the State Park administrative trips would not dramatically change the traffic patterns in the area. The new Education Center would generate a minimal amount of new trips into the area including several bus trips per day. The net result of this action would be a minor increase in traffic volumes on Las Virgenes and Malibu Canyon Roads, and a moderate increase in traffic on a short segment of Mulholland between the intersection of Las Virgenes and the entrance to the Soka site. There would be an increase in the turning movements at the Las Virgenes/Mulholland intersection. This change would not result in a change in the Level of Service provided by the intersection. The traffic changes would not create any notable traffic congestion. The change would eliminate the turning movements that currently occur on Malibu Canyon Road at the existing State Park Headquarters site thereby reducing traffic congestion in that area.
Northern Gateway Visitors Center	This new facility would consist of a visitor center, a large screen theater and a Park & Ride lot for commuters using the L.A. Metro Bus system that operates along U.S. Highway 101. This action would create a moderate increase in traffic on Agoura Road between the site and Las Virgenes Road. It would also increase the turning movements at the signalized intersection of Agoura and Las Virgenes Roads. This new facility would not change the Level of Service provided by this intersection. This facility would not create any traffic congestion problems or notable traffic impacts.
Malibu Bluffs Coastal Education Center	The creation of this new education center would create a small number of new trips into the area resulting in a negligible increase in traffic volumes on PCH. It is likely that this center would generate new school bus and tour bus activity in the range of four to six buses per day. Activity at the new center would increase the turning movements at the signalized intersection of Malibu Canyon Road and PCH. These increases would not be great enough to change the Level of Service provided by this intersection.
New Visitor Contact Site at the Marion Davis Home	This new facility would have a new parking area that would accommodate regular passenger vehicles and several buses. The presence of this new facility would not create any new trips into the area, although it would generate turning movements at the access location on PCH. Pacific Coast Highway consists of six travel lanes and a center turn lane in the vicinity of the proposed site. As part of this action the center turn lane would be converted into a designated left turn lane for vehicles entering the facility. Vehicles turning into and out of this new facility would create additional traffic congestion on PCH in the vicinity of the site.

EDUCATION ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Education Day Camp	This action would involve expanding the facilities and programs at the existing camp. This would result in one or two additional bus trips into the area per day during times when the camp is active. This would create a negligible increase in traffic on Franklin Canyon Drive and portions of Mulholland Drives. The overall traffic impacts would be negligible.
Expand Boundary to Griffith Park, consolidate Visitor Center with an existing facility, and include Stone Canyon Reservoirs	This action would not create any measurable change in traffic patterns or volumes.

Moreover, with the increase in low intensity areas, emergency events could be expected to decrease.

Based on the availability and capability of existing fire protection and emergency response systems to service the new park facilities, coupled with an expectation that a change in land use policy (with a greater emphasis on low intensity areas) could result in a potential decrease in emergency events, only minor impacts to fire protection services are expected with this alternative. These impacts would be mitigated through increased fire awareness for park visitors, including signage and public information, and limiting storage of combustible, flammable materials onsite. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible impacts.

Police protection services would be expected to remain similar to current service levels with implementation of the education alternative. As described above, a change in land use policy (with a greater emphasis on low intensity areas) could result in a potential decrease in emergency events and consequently police protection needs.

Based on the type of new park facilities, a substantial demand on police protection services would not be required and only minor impacts would be expected. These impacts would be mitigated through NPS VSS consultation with the Los Angeles and Ventura County Sheriff Departments to ensure adequate police protection services. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible impacts. Future development would be required to examine the potential increase in demand for fire and police protection services, in conjunction with subsequent environmental review.

■ **Water/Wastewater**

The education alternative proposes the development of 16 park facilities that would require an increase in potable and non-potable water demands. While the precise rate of water consumption for these facilities is not known, it is estimated that a relatively small increase in water demands compared to existing water demands would be required to support the proposed land uses and facilities. Based on discussions with the LVMWD,



adequate water supplies and facilities currently exist to support the projected water demands of this alternative. In some cases, groundwater wells could also supply potable water. With respect to wastewater services and facilities, the LVMWD could provide wastewater service to the new park facilities within the SMMNRA. Based upon the expected wastewater generation rates as part of the education alternative, the LVMWD facilities have adequate capacity and facilities to support this alternative. Alternatively, on-site sewage disposal systems could be used for most of the proposed facilities. Based on the available capabilities provided by LVMWD, only negligible impacts to water and wastewater services would be expected with the education alternative. These impacts could be further reduced by providing onsite water wells, water storage and wastewater disposal systems as necessary during facility planning stages. Future development would be required to examine the potential increase in demand for water and wastewater services, in conjunction with subsequent environmental review.

Waste Management

Under the education alternative, the level of waste management service could be expected to increase slightly from current generation rates. According to Los Angeles County, which operates the Calabasas Landfill, adequate solid waste capacity is available. Based on the relatively small amount of solid waste generated as part of this alternative, plus the available capacity of regional landfill facilities, only negligible impacts to waste management services and facilities would be expected as a result of this alternative. These impacts would be further reduced through identifying the location of the nearest solid waste facility with capacity to handle additional waste flow and confirmation of available solid waste capacity for each facility at the planning stage.

Energy

As discussed in the energy section of the Affected Environment chapter, energy resources applicable to this analysis include natural gas, electric energy and gasoline. This alternative would result in a relatively small increase in electric and natural gas consumption. The amounts of fuel used to implement this alternative would be considered negligible when compared to the consumption rate of the entire Los Angeles Basin. Moreover, the use of energy for facility construction would cease at the end of construction activities. Adequate electric and natural gas transmission facilities and capacity is available for land uses and facilities associated with this alternative. Based on the available facilities and adequate capacity, only negligible energy impacts would be expected as a result of this alternative. These impacts would be further reduced through minimizing energy consumption on park lands, confirming availability of energy supply from local utilities, and possibly producing alternative energy supplies onsite (i.e., solar or individual generators).

CUMULATIVE IMPACTS

Cumulative impacts identical to those discussed under the no action alternative would occur with implementation of the education alternative and would remain significant for public services and solid waste capacity, and minor for water supply and energy.

CONCLUSIONS

Impacts under the education alternative would be similar to those discussed for the preferred alternative. Minor impacts to fire and police protection services could be mitigated to negligible levels. Negligible impacts to water, wastewater, waste management and energy would also occur. The mitigation measures discussed in the

analysis of impacts section would further reduce the level of impacts associated with the education alternative.

UNAVOIDABLE ADVERSE IMPACTS

Various negligible to minor adverse impacts have been identified after mitigation for soils and geology, water resources, flood plains, biological resources, paleontology, cultural resources, visitor experience, employment, and public services and utilities. These impacts are summarized in the "Analysis of Impacts" section in each resource discussion. The impacts are not expected to have an overall effect on the respective resources. Moderate to major impacts identified for the education alternative were related to visitor experience and land use.

Increased visitor use in areas where new facilities would be developed is expected to cause increased traffic, crowding, and noise. This may have moderate adverse impacts to visitors that prefer to experience quiet and solitude.

Inconsistencies in locally designated land uses and NPS prescribed management areas would result in moderate and major adverse impacts to land use. Major adverse impacts would occur where low use management areas overlap areas designated for residential development. Moderate to major impacts occur where moderate and high intensity use areas overlap with residential areas.

Irreversible/Irretrievable Commitment of Resource

There would be minor irreversible or irretrievable commitments of biological resources and cultural resources. Commitments would come from vegetation, wildlife habitat, or archeological resources lost to development of permanent facilities, and on-going maintenance of roads and trails.

Impacts identified for land use would involve permanent inconsistencies once areas designated for inconsistent development under local land use plans are developed. The management areas designated by NPS, however, would not result in irreversible/irretrievable commitment of resources because local land use decisions would continue to control development of property not owned by NPS. The education alternative would encourage limited short-term, primarily non-consumptive, uses of biological resources in the vicinity of 16 developed facilities. These uses do not come at the expense of long-term productivity. Because this alternative provides for a minimal amount of short-term uses in at least 80 percent of the SMMNRA, the constraints in this alternative on short-term uses would enhance the long-term productivity of the area to a higher level than the no action alternative. No other disciplines would be affected.

Recreation Alternative

NATURAL RESOURCES

Soils and Geology

ANALYSIS

► Soils

Similar to the other alternatives, proposed facilities development in the recreation alternative would have direct impacts on soils and geology. These developments, along with proposed improvements to existing facilities, include six visitor centers (plus one outside the recreation area in Exposition Park), installation of four new camps along the Backbone Trail that passes through areas of low and medium intensity use, completion of the Backbone Trail, and several education

centers. Most of these facilities would be developed on previously disturbed sites. Adverse impacts of these development activities could include the removal and disturbance of soils and geologic deposits through construction activities, such as cut and fill, grading, and paving. Removal of soils and vegetation by surface-disturbing activities could also result in increased soil erosion that can, in turn, adversely affect off-site vegetation and increase siltation in downstream watercourses. Impacts from construction activities are anticipated to be short-term and minor to moderate without mitigation. These impacts are considered minor or moderate because construction sites would be small and localized, erosion would be limited to construction areas, and construction activities would be intermittent and temporary in nature. If these impacts occur in areas containing non-erodible soils, the effects would be perceptible, although their presence would not have an overall effect on soil resources in the SMMNRA. If, however, such impacts occur in areas with erodible soils, a noticeable effect on area soil resources could occur and moderate impacts would result.

Adverse impacts on soils could also result from soil erosion from soil disturbance for fire management, fire suppression, search and rescue operations, and trail maintenance. These activities could result in impacts similar to those of facilities development and road construction and are expected to be continual and minor to moderate. Visitor uses, such as camping, could also result in soil erosion and disturbance or removal of vegetation. An increase in unplanned fires resulting from increased visitor use would likely occur. Increased visitor use may result in minor to moderate, long-term impacts. These effects are expected to be minor to moderate because they would occur

intermittently and temporarily due to emergency fire suppression activities or unexpected fires and would be limited to affected areas. Erosion due to visitor use would also be limited to the immediate area. Such impacts would be minor in areas with non-erodible soils or low intensities of visitor use because, although perceptible impacts may occur to soil resources due to slight erosion, these impacts would not have an overall effect on soil resources within the SMMNRA. Moderate impacts would be more likely to occur in areas with erodible soils or high visitor use due to the increased soil erosion and the increased potential for noticeable impacts that affect soil resources as a whole within the SMMNRA. An overall increase may occur, compared to the no action alternative, due to the increased number of facilities and smaller proportion of low intensity areas.

Erosion control measures such as sediment retention ponds, silt fencing or slope stabilization techniques would be included in all facility development-specific plans and would be implemented for surface disturbing activities, such as construction or trail maintenance. Adverse impacts on soil resources from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning and enforcement. Visitor management and visitor education would be effective in minimizing many potential impacts. Fire clearance zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs, should be effective in reducing the likelihood of visitor-caused fires. Mitigation would reduce potential impacts to minor.

No beneficial effects on soil and geologic resources are anticipated for the recreation alternative.

► **Geologic Hazards**

Unmitigated geologic hazards could impose potentially major long-term adverse impacts to public health and property after facilities development. These impacts would be considered major because there would be a potential for substantial human safety risk and property loss. The principal hazards within the SMMNRA are ground shaking, landslides, debris flows, and ground failures resulting from liquefaction. Potential impacts resulting from geologic hazards would be limited to areas where facilities would be added. The potential exposure to unmitigated geologic hazard would be greater than the no action alternative due to the increased number of facilities.

The primary mitigation for geologic hazards is the avoidance of geologic hazard zones through careful siting of facilities, and minimizing hazard impacts through careful design and construction practices. All grading and construction plans would be submitted to qualified technical staff within the administering agencies for geologic and geotechnical review prior to approval. A qualified geologist would conduct a geotechnical and geologic hazard investigation prior to project implementation with a focus on projects in areas of concern. Such areas include projects involving hillside terrain, proximity to active or potentially active faults, and areas of possible liquefaction. New facilities would be sited to avoid geologic hazard zones. New facilities and the modification of existing facilities would be designed and constructed in compliance with all applicable state and federal building code standards. Mitigation would reduce impacts to minor.

CUMULATIVE IMPACTS

Cumulative impacts to soil and geologic resources from the recreation alternative are

similar to those described for the no action alternative and would continue to be minor, as identified in the listed project documents. Though more facilities would be developed under the recreation alternative compared to the no action alternative, proposed facility locations would be localized and dispersed throughout the SMMNRA and are not expected to increase regional cumulative impacts. Adverse impacts to soil resources from the recreation alternative would be minor after mitigation, and are not expected to contribute substantially to cumulative impacts, which would remain minor.

CONCLUSIONS

Proposed facilities development would have direct minor to moderate adverse impacts on soils and geology. Impacts would include the removal and disturbance of soils and geologic deposits through construction activities, such as cut and fill, grading, and paving. Removal of soils and vegetation by surface disturbing activities could also result in increased soil erosion that can, in turn, adversely affect off-site vegetation and increase siltation in downstream watercourses. Minor to moderate adverse impacts on soils could also result from fire management, fire suppression, search and rescue operations, and trail maintenance. No beneficial effects to soil and geologic resources are anticipated for the recreation alternative.

Geologic hazards could impose major adverse impacts to public health and property after facilities development. Potential impacts resulting from geologic hazards would be limited to areas where facilities would be added. This alternative includes more facilities and improvements than the no action alternative and would therefore increase potential exposure to geologic hazards.

Mitigation for soils and geologic hazards that would reduce adverse impacts to minor remains the same for all alternatives, and is discussed in the analysis of impacts section.

Soil resources and exposure to geologic hazards on privately held land would largely depend upon local enforcement of land use and building permits by other local agencies.

Water Resources

ANALYSIS

The recreation alternative potentially has the largest adverse impact on water resources in the area because of the increase in visitor numbers and the proposed development of facilities to provide for the visitors. The types of adverse impacts are similar to the no action alternative. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas.

The most likely adverse water quality impacts from the increased visitor numbers would be from erosion risks through increased use of unsealed tracks and roads. Increased maintenance could prevent erosion and reduce otherwise long-term moderate impacts to a minor level. The most pressing adverse impact from the proposed development of facilities would be on water quantity and quality. Impacts could include an increase in the runoff volumes and rates from these areas, which could potentially cause streambed and bank erosion, habitat scour, and benthic smothering from the increased flows. In addition, runoff from these areas could contain pollutants such as hydrocarbons and heavy metals from vehicles that are common in road runoff. These pollutants could cause a moderate long-term impact on the health of the aquatic life in the streams and rivers. These impacts would

be moderate because fuel or sewage spills could potentially affect the quality of waterways and water bodies within the SMMNRA. They would occur only intermittently and would be temporary, however, and would be limited to the area surrounding construction sites or septic tanks. The area of potential effect would be greater than the no action alternative, due to the increased number of facilities.

Direct short-term minor impacts could occur during construction phase of the proposed facilities. Clearing vegetation during construction and grading activities leaves soils exposed to erosion during rainfall, and these could impact the stream turbidity and suspended sediment levels which could affect light penetration and visibility in the streams. These impacts would be considered minor because runoff containing pollutants or high levels of sediment would be expected to occur in small quantities, would be intermittent, and would be limited to the immediate area surrounding exposed open roads and construction areas. Accidental spills of fuel and other automotive fluids could occur during the servicing of construction equipment and could impact waterways if these activities are conducted near waterways or without berms or other means of secondary containment. Septic systems that are not properly located, designed and constructed could also cause moderate short- and long-term impacts to surface or ground water. The area of potential effect would be greater than the no action alternative, due to the increased number of facilities.

Mitigation of these impacts would be applied in two phases, during construction and longer term, more permanent measures. Mitigation during construction would be achieved through development of a construction stormwater management plan by a qualified professional, which would emphasize careful planning of activities to minimize soil disturbance, and recommend

on-site temporary water treatments, such as silt fences and sedimentation ponds. The plan would be prepared for all construction activities affecting one of more acres and would include best management practices such as temporary on-site water treatments, such as silt fences and sedimentation ponds. Fueling and servicing of construction equipment would not occur within 100 feet of a waterbody or drainage area unless adequate spill control/containment is provided. These measures retain pollutants on-site and reduce the downstream impacts of construction.

Longer-term mitigation of potential impacts for the proposed facilities would include some treatment of the runoff from developed areas to reduce pollutants such as toxicants from vehicles or pathogens from restroom facilities from reaching the waterways. Qualified engineers within the administering agencies would conduct a soils and engineering evaluation to support the location and design of all septic system repairs, upgrades, and installations. The permanent mitigation measures would be planned and designed as part of the detailed design of the proposed facilities. Mitigation during construction and over the long-term would reduce impacts to minor.

The proposed trail campsites could result in moderate impacts by increasing pathogen levels in the waterways and causing a threat to aquatic and human health. Mitigation of these impacts would be through designing and planning the location of the restroom facilities to minimize the delivery of pathogens to groundwater or streams. Erosion control measures would be employed to reduce the erosion risks. Impacts would be reduced to a minor level with mitigation.

Another impact from the trail campsites would be the extraction of potable water. The source of drinking water for these camps would need to be considered carefully, as removing too much water from the

existing system could draw down streams resulting in moderate adverse impacts to aquatic life in the stream. The availability of good quality drinking water might determine the feasible size of camps and would be considered carefully in the detailed design phase. Impacts could be reduced to minor with mitigation.

CUMULATIVE IMPACTS

The recreation alternative involves construction of a few facilities in the Malibu Creek watershed. These facilities would result in minor impacts to water resources from increased run-off and pollutants. This alternative would contribute to cumulative impacts in the Malibu Creek watershed. However, the contribution would be minimal due to the small size of the proposed facilities relative to larger development projects affecting the watershed. Cumulative impacts as described in the Ahmanson Ranch *Draft EIR* would remain moderate.

Increasing the proportion of areas of moderate intensity use would have minor adverse impacts on water resources in Malibu Creek and other watersheds. Cumulative impacts to water resources may increase in other watersheds in the future as densities of development increase within areas designated for future residential and commercial use. These impacts would be reviewed on a watershed basis in future NEPA documentation when facilities are funded for site identification/development, design, and construction.

CONCLUSIONS

Overall, the recreation alternative would potentially provide the most adverse impacts on the recreation area, compared with the other alternatives. These however, if well managed, could be reduced through mitigation so that the health of the waterways is not seriously impacted and impacts are reduced to minor.



Flood Plains

ANALYSIS

The major drainages/flood plains in the SMMNRA, as described in the Affected Environment chapter, include Calleguas and Malibu Creeks as well as the Arroyo Sequit stream. The recreation alternative proposes the following facilities and uses in the vicinity of these flood plains that either include modified/new structures or would increase the access to and extended duration of activities (especially over night) in the flood plains.

- Mugu Lagoon Visitor Center and CSUCI Research and Information Facility are located in the vicinity of the Calleguas Creek flood plain.
- Circle X Ranch, Accessible Camp at Decker Canyon, and a trail camp on the Backbone Trail are located in the Arroyo Sequit stream flood plain area.
- Paramount Ranch Film History Museum, White Oak Ranch Living History Program, Northern Gateway Visitor Center, and the Malibu Bluffs Visitor Center.

Additionally, this alternative includes areas designated as high intensity use that encompass the Calleguas and Malibu Creek flood plains as well as the Arroyo Sequit stream flood plain.

The specific location for the structures and use areas for facilities listed above has not been determined. Therefore, it is not possible to identify the intensity or severity of the impacts at this time. However, locating structures/extended use areas for one the proposed facilities within the 100-year flood plain would result in long-term moderate adverse impacts because it would increase access to the flood plain and provide for the construction of facilities within the flood plain. These actions would increase the potential for loss of life or property through

increased potential for flooding. Locating structures/extended use areas for more than one facility in the 100-year flood plain would result in major long-term adverse impacts because the potential for flood damage would increase.

These impacts could be reduced through mitigation. During siting of structures and use areas for proposed facilities in the vicinity of a flood plain, an engineering evaluation would be conducted by a qualified engineer to identify the boundaries of the 100-year flood plain. Unless infeasible, structures and use areas would be located outside the flood plain boundaries. Facilities and trails within the 100-year flood plain would be closed 24 hours prior to a predicted 50-year, 24-hour storm even. NPS would use various warning systems and would patrol use areas within the flood plain prior to and during storms to assure that these areas are not occupied. For example, VCFCD has operated a flood warning system since February 1979. The system is called "ALERT", an acronym for Automated Local Evaluation in Real Time, which was developed by the National Weather Services. In addition, signage would be provided at the flood plain boundary on trails and access roads alerting park users that they are about to enter an area prone to flooding during wet weather conditions.

CUMULATIVE IMPACTS

The recreation alternative could substantially contribute to cumulative impacts to flood plains, but would be the sole source of regional cumulative impacts, similar to the no action alternative.

CONCLUSIONS

The recreation alternative could result in potentially moderate adverse long-term impacts related to the above facilities and the designation of high intensity use that encompasses the flood plains. Moderate

adverse impacts would result from changing current low and medium intensity use areas to high in the area of the Calleguas Creek flood plains.

The actual intensity of adverse impacts cannot be determined until the specific facility locations are determined. The mitigation measures discussed in the analysis of impacts section would reduce the adverse impacts related to flood plains to minor.

Biological Resources and Wetlands

ANALYSIS

► Vegetation

Facilities development in the recreation alternative would have direct impacts on vegetation. These developments, along with proposed improvements to existing facilities, include six visitor centers (plus one outside the recreation area in Exposition Park), installation of four new camps along the Backbone Trail that passes through areas of low and medium intensity use, completion of the Backbone Trail, and several education centers. Some of these facilities could be developed on previously disturbed sites. The specific biological resources affected by the development of projects within this alternative would be presented in separate NEPA documentation prepared for each project, although some general consequences might include the impacts discussed in the following paragraphs and sections.

Adverse impacts of these development activities could include the removal and disturbance of native vegetation through construction activities, such as cut and fill, grading, and paving. Removal of vegetation by surface-disturbing activities could also result in increased soil erosion (see soils and geology) that can, in turn, adversely affect off-site vegetation and increase siltation in downstream watercourses. This alternative would allow for increased human activities

within habitat areas supporting sensitive biological resources, including habitats and corridors that currently support mountain lions, golden eagles, other predators, and deer. Ad hoc dirt tracks would likely be established in some areas as hikers veer off established trails. Some sensitive plant species may be disturbed by these activities. Impacts from these activities could range from negligible to major depending on the extent of sensitive species affected. Negligible impacts would occur if effects remain localized or affect only non-sensitive species. These impacts would increase to major levels if erosion affects a large number of highly sensitive species, or if a large extent of species present is affected. If construction areas would potentially support sensitive plant or wildlife species, appropriate consultations with the USFWS and CDFG would be conducted during the planning stages of the projects, and if found *a propos*, agreed upon mitigation would be implemented as conditions of the projects.

Other resulting adverse effects could include invasion by exotic plant species into disturbed areas due to increased frequency of hikers carrying seeds of exotic species on their gear into native habitat areas. In addition, there could be an increase in disturbances in stream corridors, and the elimination or alteration of riparian vegetation in streambeds. Disturbance or removal of vegetation on slopes from additional trails and ad hoc tracks could increase the potential for debris flows that, in turn, could dramatically affect downslope vegetative communities, including riparian species within downstream watercourses. These impacts could range from negligible, if only slightly perceptible changes in habitat vegetation distribution occurs, to major, if exotic or invasive species begin to dominate areas that have historically been occupied by native or sensitive species.

Adverse impacts on natural vegetation could also result from fire management, fire suppression, search and rescue operations, and trail maintenance. These activities could have adverse effects on vegetation similar to those of facilities development and road construction, but because of their reactive nature, could not be expected to easily account for or avoid sensitive biological resources until after emergency activities are completed. Examples of impacts would be the removal (burning) of vegetation in backfire areas, or removal of vegetation in areas where temporary flow/erosion control structures would incidentally displace riparian vegetation during storms. During these emergency activities, the loss of habitat or individuals of sensitive plant and animal species may be unavoidable. These emergency actions could create negligible to major impacts, depending on the extent of sensitive species that would need to be replaced, as discussed above. However, during routine planning for fuel management and trail maintenance activities, adverse effects on sensitive vegetation would be avoided or mitigated to minor. This would be especially true for small plant populations, such as the endangered Lyon's pentachaeta and other sensitive plant species listed in Table 13.

Visitor uses, such as camping, could also result in soil erosion and disturbance or removal of vegetation. For example, areas around campgrounds likely would be highly disturbed. Hikers could easily stray from established trails into areas supporting sensitive species. An increase in unplanned fires, and their resultant impacts, resulting from increased visitor would likely occur. Typical edge effects are expected to be substantially greater for the recreation alternative compared to the no action alternative. This increase would result from an increase in the number of facilities, trails,

and tracks throughout the SMMNRA. The impact could be moderate to major in intensity for many plant communities. For example, riparian areas would likely attract large numbers of hikers. The habitat and corridor characteristics of these areas would eventually be altered. Moderate impacts could occur if historic vegetation is damaged, but could recover over time despite continued visitor uses. Major impacts could result, however, if intense use results in permanent destruction of sensitive native populations.

No beneficial effects on biological resources are anticipated for the recreation alternative.

The primary mitigation for proposed facilities development would be to avoid undisturbed native vegetation through careful siting of facilities. New development would be sited in previously disturbed areas, which normally support stands of exotic vegetation, thereby avoiding or minimizing impacts on undisturbed native vegetation. A qualified professional prior to approval would submit all grading and construction plans to the administering agencies for review. Areas temporarily disturbed during construction would be recontoured and revegetated with appropriate native plant species, and appropriate fire-suppression zones would be maintained around developed structures.

Erosion control measures such as sediment retention ponds, silt fencing, or slope stabilization techniques would be implemented for surface-disturbing activities, such as construction or trail maintenance. Erosion control activities would be particularly important for this alternative since many unplanned trails and tracks would likely be created over the life of the plan by hikers veering off established trails.

For the development of planned facilities, pre-project surveys would be conducted prior to project implementation in the appropriate

season for listed species, as well as other species of federal or state concern (see Table 13). The administering agencies would consult with the USFWS and CDFG during the detailed planning phase of a project, if any listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes. Monitoring by a qualified biologist is required for surface-disturbing activities in, or in close proximity to, sensitive vegetative resources (e.g., wetlands, listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

Adverse impacts on vegetation from management activities, maintenance, and visitor use would be minimized or avoided altogether through careful planning. Visitor management and visitor education programs, which would be developed and presented in the NEPA documentation for each project, would be effective in minimizing many potential impacts. Such programs would be designed to educate hikers and campers about the importance of preserving the natural character of the SMMNRA for future uses.

Fire clearance zones would be incorporated into the planning of developments. Educational efforts, such as posting fire hazard signs and providing hikers brochures at trail entry points, could be effective in reducing the likelihood or frequency of visitor-caused fires and their resultant impacts. If vegetation is lost or disturbed from visitor activities, the area would be rehabilitated or revegetated with species from an appropriate native plant palette and with seeds/plants obtained from local sources.

In general, mitigation measures would be effective in avoiding or minimizing loss of vegetation and permanent loss of currently vegetated, natural areas would be minor. The long-term health of vegetation on privately held land would partially depend upon local enforcement of land use and building permits by other local agencies, such as within the Los Angeles County Significant Ecological Areas that are not within the jurisdiction of the SMMNRA.

Wildlife

Facilities development in the recreation alternative would have minor direct, localized impacts on some wildlife species. Some development would occur on previously disturbed habitat areas where ruderal vegetation has established itself. Wildlife with an affinity to disturbed sites, such as starlings and pigeons, would be most affected. These impacts are considered minor because species inhabiting disturbed habitat are typically highly adaptable, and disturbed habitat is common in the region. Removal of undisturbed habitat would affect a different suite of wildlife. Some species would be restricted to other disturbed habitats within the SMMNRA, and to areas outside the park boundaries. Small native mammals, birds, reptiles, and amphibians would be permanently or temporarily displaced by



some construction activities. Adjacent populations would be adversely affected as displaced wildlife attempt to inhabit off-site areas where other individuals are already established. There is the potential for decreases in the habitat available for endangered, threatened, rare or sensitive species of wildlife if vegetation and wildlife habitats are committed to permanent development. These impacts would range from negligible to major. Negligible or minor impacts would occur if only a small portion of habitat is affected, or if construction/disturbance occurs during non-breeding seasons and individuals or populations are not noticeably affected. Major impacts could result, however, if a large proportion or critical area of the population is affected or if disturbance occurs during breeding seasons such that the viability of the population is threatened. In addition, major impacts could occur if sensitive or endangered species are impacted, even to a small extent.

Edge effects would be expected in habitats directly adjacent to developed areas and along trails and staging areas for recreational events. Edge effects are changes within a "zone of influence" between habitats that may vary in width, depending upon what is measured. The intensities of edge effects frequently are dependent upon the sizes and shapes of the disturbed areas and, therefore, the lengths of the edges between habitats. Such effects could include changes in biotic factors as temperature, relative humidity, penetration of light, and exposure to wind, each of which could affect the presence or distribution of species within the area. Biotic changes due to edge effects could include, among others, elevated plant mortality, depressed migratory bird usage and breeding near habitat margins, or increases in insect species diversity (Soule 1986, Meffe and Carroll 1997). For projects within the

SMMNRA, the size and extent of such edge effects, if any, would be analyzed in additional documentation prepared for each project, but would likely be negligible to minor in intensity because the siting of projects would be localized and limited to areas that have been previously disturbed, which normally support stands of exotic species rather than sensitive native species.

Visitor uses, such as hiking, horseback riding, and mountain biking, could have direct and indirect, adverse effects on wildlife. This alternative would increase the spatial extent of these activities in the SMMNRA. Direct impacts include disturbance of soils supporting vegetation, trampling or removal of vegetation, and disturbance of wildlife activities and habitat, especially for species, such as deer, that are sensitive to the presence of humans.

Indirect effects from visitor use include disruption of wildlife activities and behaviors for some species. Some species of wildlife, such as deer, are especially vulnerable to predation at water holes. Species that are sensitive to human intrusions include mule deer, mountain lion, and intermediate-sized predators (e.g., bobcat, coyote, and gray fox) and they might avoid water sources as a result of visitor activity. This is especially critical during the drier seasons of summer and fall. In this alternative, visitor use would be encouraged year around over a more extensive area compared to the no action alternative. Adverse human-wildlife interactions are likely to be more frequent with the recreation alternative compared to the no action alternative, and the effects could range from moderate to major intensity, depending on levels of visitor use and proximity to sensitive wildlife. Moderate impacts would occur in areas where human activity is localized and alternative resources or habitats are available for affected species. Major impacts would be expected in areas

that are subjected to widespread human activity centered around critical resources for sensitive species, such as water supplies.

Construction planning and monitoring by a qualified biologist in areas supporting sensitive wildlife would reduce or prevent some impacts. Pre-project surveys would be conducted by a qualified biologist prior to project implementation in the appropriate season for listed species, as well as other species of federal or state concern (see Table 14). A qualified staff member of the administering agency would review all grading and construction plans prior to approval. The administering agencies would consult with the USFWS and CDFG during the detailed planning phase of a project, if any listed species or its habitat might be affected during a proposed action. Compliance with California law would be required for proposed actions that might affect state listed species. This would include notification of the CDFG through the subsequent NEPA, ESA Section 7, or CWA Section 404/401 processes.

Monitoring by a qualified biologist would likely be required for surface-disturbing activities in or in close proximity to, sensitive wildlife resources (e.g., listed species habitat). Best management practices would be implemented during construction. For example, if construction would occur during the rainy season, temporary sedimentation retention basins could be required on some projects. In addition, servicing of construction vehicles could be prohibited within 100 feet of riparian corridors, or disturbances of native vegetation or the root zones of oak trees could be avoided by staking construction staging areas. Such measures, and others as appropriate, would ensure that impacts on biological resources due to construction would be avoided, otherwise mitigated, or that any effects would be negligible.

Visitor use management and education, through visitor information centers, signage, and brochures, would be effective in minimizing many indirect impacts on wildlife.

► **Habitat Connectivity**

As with vegetation, proposed facilities development in the recreation alternative would have direct impacts on habitat connectivity. Any loss, disturbance, or degradation of vegetation in habitat linkages and wildlife movement corridors would also have an adverse impact on an area's value as habitat. Habitat linkages and wildlife movement corridors have been identified in various studies of the region, including choke point areas where limited opportunity is available for safe movement across major roadways. Many wildlife corridors have been constrained by present developments within the SMMNRA boundaries. One major habitat connection of regional importance connects the Santa Susana and San Gabriel Mountains north of the SMMNRA to the Santa Monica Mountains through the Simi Hills. Local habitat connections tend to follow canyon bottoms (riparian linkages) and ridgelines (upland linkages), often with interconnections with other such corridors. Loss of habitat connectivity leads to habitat fragmentation and isolation of some taxa of wildlife. Some taxa, as with many birds, could utilize archipelago (island) linkages, but most cannot. The placement of facilities within riparian areas, ridgelines, or island habitats could interrupt habitat connectivity for numerous wildlife species. The number of facilities and extent of high and moderate use intensity management areas under the recreation alternative would constitute a major impact to regional wildlife movement and gene flow. As visitor use and development increase, it would become

increasingly difficult for sensitive species to migrate between undisturbed habitat, jeopardizing their viability as a species.

As with the no action alternative, the primary mitigation to offset impacts from new development would be to avoid sensitive habitats and habitat linkage areas through careful project siting. A qualified biologist within the administering agencies would evaluate all proposed actions for their effects on habitats and on habitat connectivity to avoid or mitigate further habitat fragmentation. New developments would be excluded from existing wildlife corridors, or minimized to the greatest extent practicable, to ensure the continued exchange of genes and individuals between wildlife populations within and adjacent to the SMMNRA. Degraded habitats within conserved linkage areas would be restored. The most effective means of maintaining habitat connectivity is through the maintenance of sufficiently wide (greater than 400 feet) habitat linkages between major blocks of habitat. The feasibility of retrofitting wildlife underpasses where primary roads intersect with wildlife movement areas within the recreation area would be considered in the NEPA documentation prepared for projects that might affect habitat linkages within their sphere of influence.

■ **Wetlands**

Several of the proposed facilities included in the Recreation Alternative would be located in close proximity to wetland resources:

- **The Mugu Lagoon Visitor Education Center**– would be sited between PCH and the lagoon within an already disturbed upland site. This facility includes a perimeter boardwalk for visitor viewing of the lagoon and associated wildlife.
- **The Circle X Ranch**– includes a substantial riparian area located adjacent to existing developed areas and trails.

- **Leo Carrillo State Beach campground** is located within a major drainage and riparian area. The rehabilitation of this facility would be focused toward relocating selected campground activity areas away from riparian areas to allow for riparian habitat enhancement and restoration.
- **Decker Canyon**– would become an accessible overnight and day use environmental education center and camp.
- **Corral Canyon**– would have an overnight environmental education camp.
- **Paramount Ranch**– has a substantial riparian area that bisects it. Existing access through this riparian area would be maintained.

The Mugu Lagoon Visitor Education Center would be sited between PCH and the lagoon within an already disturbed upland site. This facility includes a perimeter boardwalk for visitor viewing of the lagoon and associated wildlife.

The Circle X Ranch includes a substantial riparian area located adjacent to existing developed areas and trails.

Leo Carrillo State Beach campground is located within a major drainage and riparian area. The rehabilitation of this facility would be focused toward relocating selected campground activity areas away from riparian areas to allow for riparian habitat enhancement and restoration.

Decker Canyon would become an accessible overnight and day use environmental education center and camp.

Corral Canyon would have an overnight environmental education camp.

Paramount Ranch has a substantial riparian area that bisects it. Existing access through this riparian area would be maintained.

CUMULATIVE IMPACTS

Cumulative impacts on biological resources from the recreation alternative would be similar to those minor impacts identified in the listed project documents and described under the no action alternative. However, the recreation alternative would contribute more to adverse cumulative impacts. Implementation of the recreation alternative would have a net negative impact on regional biological resources. There would be incremental loss of vegetation and wildlife habitat over the 30-year life of the project. Because the recreation alternative would encourage of high level of dispersed visitor activities in the SMMNRA, this alternative would have the greatest amount of impacts on vegetation, wildlife, and habitats among all the alternatives assessed. With intensifying future visitor use, cumulative impacts to biological resources may become moderate with implementation of the recreation alternative.

CONCLUSIONS

Proposed facilities development in the recreation alternative would have negligible to major direct impacts on vegetation. Adverse impacts of these development activities could include the removal and disturbance of native vegetation through construction activities, such as cut and fill, grading, and paving. Removal of vegetation by surface-disturbing activities could also result in increased soil erosion (see soils and geology) that can, in turn, adversely affect off-site vegetation and increase siltation in downstream watercourses. Resulting negligible to major adverse effects would include invasion by exotic plant species into disturbed areas and the elimination or alteration of riparian vegetation in streambeds.

Negligible to major adverse impacts on natural vegetation could also result from fire management, fire suppression, search and

rescue operations, and trail maintenance. Visitor uses, such as camping, could also result in soil erosion and disturbance or removal of vegetation. An increase in unplanned fires, and their resultant impacts, resulting from increased visitor use would likely occur. Typical edge effects are expected to be substantially greater for the recreation alternative compared to the no action alternative.

Facilities development would have direct, localized impacts on some wildlife species. There is the potential for decreases in the available habitat for endangered, threatened, rare or sensitive species of wildlife if vegetation and wildlife habitats are committed to permanent development. Typical edge effects would be expected in habitats directly adjacent to developed areas. The recreation alternative would increase the spatial extent of visitor uses, such as hiking, horseback riding and mountain biking, which could have direct and indirect, adverse effects on wildlife. Of particular concern is wildlife access to water sources. Adverse human-wildlife interactions are likely to be more frequent with the recreation alternative compared to the no action alternative and could result in moderate to major impacts.

As with vegetation, proposed facilities development could have major direct impacts on habitat connectivity. Any loss, disturbance, or degradation of vegetation in habitat linkages and wildlife movement corridors would also have an adverse impact on an area's value as habitat.

No beneficial effects on biological resources are anticipated for the recreation alternative.

In general, mitigation measures would be effective in avoiding or minimizing loss of vegetation and reducing impacts to minor. Permanent loss of currently vegetated natural areas would be similar to or greater than the no action alternative. Long-term health of

vegetation on privately held land would partially depend upon local enforcement of land use and building permits by other local agencies, such as within the Los Angeles County Significant Ecological Areas that are not within the jurisdiction of the SMMNRA.

Paleontology

ANALYSIS

The level of dispersed recreational activities within the SMMNRA would be greater under the recreation alternative than under any alternative. Potential long-term minor to moderate adverse impacts to paleontologic resources would result from an increased number of trails and trail use, resulting in the erosion of sediments of moderate to high paleontologic potential, and an increase in the frequency of unauthorized collection of fossils. Both would result in the loss of the scientific and educational potential of those specimens. Instituting multi-use trails would result in an increase in long-term moderate adverse impacts due to an increase in erosion of paleontologically sensitive sediments, relative to the no action alternative.

Completion of the Backbone Trail would result in a long-term adverse impact by exposing previously protected sediments of high to moderate paleontologic potential to erosion. Fire management and fire suppression operations could also result in moderate adverse impacts to paleontologic resources to the extent that undisturbed sediments of moderate to high paleontologic potential are impacted by excavation and grading. Similarly, construction of new facilities and the decommissioning of other facilities could result in moderate short-term impacts to paleontologic resources in areas where undisturbed sediment of high to moderate paleontologic potential lie near the surface. These impacts would be considered moderate if limited deposits of moderate to

high paleontological potential were disturbed, either due to construction or trail and visitor use.

Mitigation of impacts to paleontologic resources remains much the same for all the alternatives. It would be achieved by recovering the scientific data potential and educational potential of the fossils through controlled collection by a qualified paleontologist. Prior to construction, a qualified paleontologist would determine the paleontologic sensitivity of affected sediments during the administering agencies' geological and geotechnical review of grading and construction plans. If excavation were to occur in sediments that have high to moderate paleontologic sensitivity, monitoring by a qualified paleontologist would occur during excavation. If fossils were discovered, then construction would halt in the immediate vicinity of the find until they have been removed in a scientifically controlled fashion by a qualified paleontologist. These measures would reduce impacts to paleontologic resources to a minor level.

CUMULATIVE IMPACTS

Although the recreation alternative has the lowest percentage of low intensity use areas among all alternatives, cumulative impact areas would be expected to be minor, similar to those described in the no-action alternative because impacts would be localized and could be successfully mitigated. Cumulative impacts would therefore remain minor, as identified in the listed project documents.

CONCLUSIONS

The level of dispersed recreational activities within the SMMNRA would be greater under the recreation alternative than under any alternative. Long-term moderate adverse impacts to paleontologic resources would result from an increased number of trails and

trail use. Moderate impacts would be evident in the erosion of sediments of moderate to high paleontologic potential, an increase in the frequency of unauthorized collection of fossils, fire management or suppression operations, construction of new facilities, and the decommissioning of other facilities. The mitigation measures discussed in the analysis of impacts section would reduce impacts to minor.

The administering agencies would implement public education regarding the scientific and educational importance of fossils and promote awareness of enforcement of California State and NPS non-collection policies.

CULTURAL RESOURCES

ANALYSIS

Because much of the recreation area would be open to multi-use recreation under this alternative, the cultural resources within the SMMNRA might be impacted to a greater extent by degradation associated with increased visitor use. In particular, greater numbers of developments would increase the likelihood of impacts to historic properties through construction related activities, while the expanded numbers of visitors would increase the rate of such indirect effects as erosion, inadvertent damage, vandalism, and congestion. The development of stewardship programs could limit the destructive effects of vandalism through increased public involvement and awareness. Another effort would be continuing enhancement of the interpretive and educational components of the recreation area cultural resource management program, as funding allows, to increase public sensitivity to the importance of the recreation area's cultural resources and potentially reduce impacts by instilling a greater understanding and appreciation of these resources.

The acquisition of lands or interests in lands by SMMNRA could benefit cultural resources by extending the protection of federal preservation laws to those lands. Viewsheds that are potential components of cultural landscapes in those areas might also be afforded greater protection from incompatible development adjacent to recreation area boundaries. SMMNRA staff would continue to work with neighboring landowners and jurisdictions to ensure, to the extent feasible, that adjacent land management practices do not impair the recreation area's cultural resources or viewsheds.

Archeological Resources

Archeological resources would be protected from the effects of development and visitor use where possible; however, sites would remain susceptible to natural deterioration, inadvertent damage by human activity, and vandalism in areas further removed from the purview of recreation area staff. Some sites would eventually be lost. Further deterioration or destruction of archeological sites in the recreation area by natural forces or human activity would result in the loss of resource values associated with the prehistory and history of the region. Such impacts are expected to be negligible, because this alternative would not increase public accessibility to archeological sites in the SMMNRA. With appropriate mitigation, these impacts could be further reduced.

To ensure that adequate consideration and protection are accorded archeological resources, cultural resources investigations, including records searches and archeological surveys conducted by qualified archeologists would precede all ground-disturbing activities on recreation area lands. Archeological and Native American Indian monitoring would occur where ground disturbance is expected in the vicinity of known or suspected cultural resources. If cultural materials were

unearthed during construction activities, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and assessed, and any necessary mitigation undertaken. Potential mitigation measures could include avoidance, preservation, or data recovery. If construction impacts upon archeological sites cannot be avoided, the California State Historic Preservation Office and concerned Native American Indian groups would be consulted in the development of mitigation strategies.

If human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during facilities or trail improvements, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed.

► **Historic Structures**

Implementation of the recreation alternative would not directly impact either the Adamson or Will Rogers Houses, which are located within the recreation area's boundaries and listed on the National Register of Historic Places. The existing management and use of the structures would remain unchanged, and existing levels of visitation are not expected to appreciably increase.

The docking of scenic coastal tour boats at Santa Monica Pier would have negligible, if any impacts upon Looft's Hippodrome, which is also listed on the National Register. The pier already experiences a high level of visitation and this coastal tour service is not anticipated to appreciably increase the existing level of visitation. Any corresponding visual or audible intrusions associated with the extremely small increase in visitation expected would not alter or diminish the integrity of Looft's Hippodrome.

Although visitor use to structures would be limited, minor impacts resulting from continued visitation of the Adamson House, Looft's Hippodrome, and the Will Rogers House might occur, due largely to wear-and-tear and routine maintenance activities. These impacts would be considered minor because they are localized and gradual. Management practices employed by the recreation area and cooperating agencies, including use of appropriate maintenance and repair materials and supplies, in accordance with the guidelines listed below, would reduce or eliminate these effects.

To appropriately preserve and protect the many historic structures of SMMNRA that are either listed in, or potentially eligible for, listing on the National Register of Historic Places, all preservation and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would continue to be conducted in accordance with the National Park Service's *Management Policies* (1988) and *Cultural Resource Management Guideline* (1996), and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Making historic structures accessible to the physically challenged, to comply with the Architectural Barriers Act of 1968 and the Rehabilitation Act of 1973, could result in the loss of historic fabric or the introduction of new visual and non-historic elements. For example, the doorways of buildings could require widening and ramps or the addition of wheel chair lifts to the exterior of buildings. These impacts would be considered moderate because they would potentially involve only a few components of sites with high data potential. To avoid impacts to the historic values of these structures, historic architectural studies and plans for modification would be developed in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*

(1995) to reduce damage to the historic integrity of structures and ensure the highest levels of compatibility possible. All plans would be reviewed by the SHPO and concerned preservation societies prior to implementation of any changes. As a result, these impacts would be kept to negligible levels.

Actions undertaken to minimize erosion along historic roads and trails would be implemented in a manner that would preserve the integrity of these cultural resources. Such measures would include use of historic building materials or concealment of erosion control structures using historic landscape features, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). As a result, these impacts are expected to be negligible.

► **Cultural Landscapes**

The expansion and/or improvement of existing visitor centers and interpretive facilities, or construction of new structures, parking areas, trailheads and trails, and picnicking and camping sites, could impact the cultural landscapes of the SMMNRA by disrupting or destroying historic settings and other characteristics of integrity. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. The careful design of facility improvements, the use of compatible materials in the construction of new facilities, interpretive waysides or trails, and consultation with qualified staff and Native American Indian groups, should ensure that such impacts are kept to negligible levels.

Potentially significant cultural landscapes of the recreation alternative would be protected and preserved, but continued visitor use could result in increased erosion

and vandalism, accelerating the degradation of contributing landscape features and elements such as roads and trails, structures, fence rows, and orchards. These impacts could result in fairly extensive changes in historic character depending on the extent and use intensity of such facilities, and could be considered moderate impacts. The SMMNRA interpretive and educational programs could be used to increase visitor appreciation of the resources and how they are preserved and managed. The programs could also provide an understanding of how to experience such resources without inadvertently damaging them. The continuation of these programs could eliminate or reduce visitor impacts to cultural landscapes to negligible levels.

Designating Mulholland Drive, Topanga Canyon Boulevard, Malibu Canyon Road, Kanan Dume Road, Decker Canyon Road, and PCH as scenic corridors would encourage public interest in the corridors and their associated resources. These component actions would entail the formal evaluation and documentation of these routes as heritage corridors or cultural landscapes. Such designations would possibly generate traffic, which could create major impacts that would include widespread and highly noticeable deterioration of setting, feeling, and other aspects of integrity. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource could be provided to reduce or eliminate these impacts. Such measures would include traffic volume control, parking control, and expanded transit options.

► **Ethnography**

Through consultation with concerned Native American Indian groups, ethnographic resource values are taken into consideration early in the planning process. The limited

developments that are proposed under the recreation alternative could be designed to reduce or eliminate direct impacts to known ethnographic sites. These impacts would be considered moderate because they could potentially result in a perceptible degradation of a Native American site with moderate to high historic data potential. These sites, however, would to a greater or lesser extent, depending upon their location and nature, remain susceptible to such impacts as natural deterioration, inadvertent damage by human activity, and vandalism. Erosion control, restricted access, visitor education, and other measures would be implemented to ensure that these impacts are kept to negligible levels.

Supporting the Native American Indian participation in the interpretation of ethnographic resources would continue to expand the interpretation of the ethnographic resources of the SMMNRA. Such actions would enhance the ability to protect and preserve ethnographic resources and continue the traditional cultural practices, as well as increase appreciation of traditional cultures.

► **Component Actions**

Actions that are scheduled to proceed under the recreation alternative are listed below, along with their potential impact on cultural resources and the mitigation measures necessary to minimize them. In many instances, however, the presence or absence of cultural resources has not yet been ascertained. As a result, the intensity of impacts cannot always be defined.

1. Land use would be managed within the intended use intensities: low 10 percent, moderate 80 percent, high 10 percent.

The moderate intensity use areas would serve as buffer zones between sensitive areas and areas of high intensity, although moderate use areas are accessible to most visitors. With a minimal percentage of land use planned

as low intensity use areas, impacts to cultural resources are likely. These impacts include the effects of ground-disturbing activities related to construction, as well as accelerated erosion, vandalism, and looting occurring at a rate generally proportionate to the level of use. The high percentage of moderate intensity use areas would provide increased accessibility to the low intensity use areas, resulting in similar effects. The following mitigation measure is recommended:

✓ A monitoring program that would assess the rate and nature of impacts to cultural resources in the vicinity of trails and other high intensity use areas would be established and mitigated by administering agencies. This program would focus on a subset of resources, and the results extrapolated to similar settings. Should monitoring reveal the acceleration or degradation of cultural resources to an unacceptable level, mitigation measures would be developed in consultation with recreational groups, the SHPO, and concerned Native American Indian groups. Such measures would include avoidance, data recovery, access restriction, signage, visitor education, and similar actions. These measures should assist in keeping impacts to minor levels.

- 2. All trails would be multi-use trails** Many trails would require improvements to accommodate multi-use activities. Multi-use trails would likely bring more people into the area, resulting in an increased rate of impacts to historic properties from trail construction and other ground-disturbing activities. Impacts would also occur from increased erosion, inadvertent damage, and vandalism. Trails that provide access to cultural landscapes, or components of cultural

landscapes, could result in impacts that diminish the contributing values to the landscape. These effects could be moderate to major depending on visitor use intensity, proximity to cultural sites, and data potential of affected sites. The following mitigation measure is recommended:

✓ The administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed component actions. Because multiple uses have the potential to accelerate degradation of cultural resources on all trails, all trails would be subject to cultural resources investigations, including inventory, evaluation, and impact assessment. Mitigation measures, including avoidance, data recovery, access restrictions, and visitor education, would be developed for those resources that could be expected to be impacted by component actions. These measures could be expected to reduce impacts to minor levels of intensity.

- 3. *Sycamore Canyon would be designated a multi-use corridor***— The designation of the canyon as multi-use corridor would attract more visitors to the area and result in an increase in types of uses, resulting in an increased potential to negatively impact historic properties. Trail construction and other improvements requiring ground disturbance might directly affect historic properties, while horseback and mountain bike riding could be inadvertently destructive to cultural resources by accelerating erosion rates. These impacts could range from major, depending on the proximity and intensity of visitor use to sites with high data potential. The following mitigation measures are recommended:

✓ The administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed component actions.

✓ Because multiple uses have the potential to accelerate degradation of cultural resources on all trails, all trails would be subject to cultural resources investigations conducted by qualified archeologists, including inventory, evaluation, and impact assessment.

✓ Mitigation measures, including avoidance, data recovery, access restriction, and visitor education, would be developed for those resources that could be expected to be impacted by this component action. These measures could be expected to reduce impacts to minor levels of intensity.

4. *The Backbone Trail would be open to multi-*

use recreation— Trail improvements and intensified use could directly affect historic properties by damaging archeological resources. Horseback and mountain bike riding could be inadvertently destructive to cultural resources, impacting setting, feeling, and other aspects of integrity of cultural landscapes through the introduction of large groups of visitors. These effects could be moderate to major depending on visitor use intensity, proximity to cultural sites, and data potential of affected sites. The following mitigation measures are recommended:

✓ The National Park Service would consult with the SHPO and the ACHP prior to the implementation of any of the proposed component actions.

✓ Trail construction would be subject to a cultural resources investigation conducted by a qualified archeologist, including inventory, evaluation, and impact assessment.



✓ Mitigation measures, including avoidance, data recovery, access restriction, and visitor education, would be developed for those resources that would be expected to be impacted by this component action. These measures could be expected to reduce impacts to minor levels of intensity.

5. The Mugu Lagoon Visitor and Environmental Education Center is to be located at the westernmost end of the recreation area off of the Pacific Coast Highway. A boardwalk would extend into the lagoon.

The proposed site would be located in a previously disturbed area. A historic Native American Indian settlement of considerable cultural significance, however, is located in the vicinity and unidentified components of this site might be present in the proposed site area. If intact but unidentified subsurface archaeological deposits are present, construction or other ground-disturbing activities could result in major impacts. The presence of a boardwalk in the lagoon could be seen as an infringement on Native American Indian beliefs, traditions, and other cultural values, while, construction might adversely affect the dynamics of the cultural landscape. As a result, further development in the area would be of concern to Native American Indians and impacts could be major. The following mitigation measures are recommended:

✓ A cultural resources inventory, including subsurface exploration, would be completed by a qualified archeologist or landscape architect prior to the finalization of plans associated with the Mugu Lagoon Center, to assess the potential to adversely impact archeological deposits. If resources are identified, mitigation through avoidance or data recovery would be undertaken.

Monitoring by a qualified archeologist and a Native American Indian would accompany any ground-disturbing activities. In the event that any unanticipated resources are encountered, all construction in the vicinity would be halted until the significance of the find is evaluated and an appropriate course of action defined. To assist with visitor education, the education center would include information on traditional lifeways and the significance of the settlement of Muwu to the cultural history of the area.

6. Expansion of the staging facilities in Rancho Sierra Vista would offer improved access to recreation trails in the western Santa Monica Mountains.

– This facility is located in the area of a Chumash village and is a cultural landscape as well. Expansion in this area might be seen as an infringement on Native American Indian beliefs, traditions, and other cultural values. Expansion might require land clearing and/or construction. Ground-disturbing construction activities might impact aspects of the integrity of the landscape that contribute to its significance, including such attributes as setting, association, and feeling through the introduction of incompatible structures or features. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measures are recommended:

✓ The administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed component actions. Design guidelines would follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

✓ Trail construction would be subject to a cultural resources investigation

conducted by a qualified archeologist, landscape architect or landscape historian, including inventory, evaluation, and impact assessment.

✓ Mitigation measures, including avoidance, data recovery, access restriction, and visitor education, would be developed for those resources that would be expected to be impacted by this component action. These measures would help to reduce impacts to minor or negligible levels.

7. **Facilities at Circle X Ranch would be expanded to offer overnight accommodations for groups. The facilities would also offer improved access to backcountry recreation trails including the Backbone Trail.** – Circle X Ranch is near a historic Native American Indian settlement. Expansion in this area might be seen as an infringement on Native American Indian beliefs, traditions, and other cultural values. Expansion might require land clearing and/or construction. Ground-disturbing construction activities might directly impact buried cultural materials or other historic or traditional values. These impacts could range from negligible to major, depending on the data potential of affected sites and visitor use intensity. The following mitigation measures are recommended:
- ✓ The administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed component actions.
 - ✓ Trail construction would be subject to a cultural resources investigation conducted by a qualified archeologist, including inventory, evaluation, and impact assessment.
 - ✓ Mitigation measures, including avoidance, data recovery, access restriction, and visitor education, would

be developed for those resources that would be expected to be impacted by this component action. These measures would reduce impacts to negligible levels.

8. **An overnight camp that would offer a variety of outdoor recreation opportunities for people of all abilities would be located in Decker Canyon.**– The Decker

Homestead is a cultural landscape. Furthermore, significant archeological properties might be present in the vicinity. Construction activities necessary for the creation of the center might directly impact contributing elements of the cultural landscape, through the introduction of incompatible structures or features, and/or disturb potential buried cultural deposits, while increased visitation might result in indirect effects from increased erosion, inadvertent damage, or vandalism. These impacts could range from negligible to major, depending on the data potential of affected sites and visitor use intensity. The following mitigation measures are recommended:

- ✓ In accordance with Section 106 of the National Historic Preservation Act, the administering agencies would consult with the SHPO and the ACHP prior to the implementation of any of the proposed actions that might affect cultural resources.
- ✓ The administering agencies would consult with concerned Native American Indian groups to ensure that this program is developed in a manner consistent with respect for Native American Indian beliefs, traditions, and other cultural values.
- ✓ Prior to any ground-disturbing activities, a program of inventory, evaluation, and impact assessment would be conducted. If resources are identified,



mitigation of impacts through avoidance, data recovery, access restriction, and visitor education would be conducted.

9. *Filming activity would continue at Paramount Ranch on set locations established throughout the cultural landscape by Paramount in the 1930s and 1940s to preserve the educational opportunities associated with the site'*

historic use – Paramount Ranch is a historic property and has been determined a significant cultural landscape eligible for listing on the National Register of Historic Places. Any construction or reconstruction might cause the alteration, removal, or destruction of original materials that contribute to the historic significance of the ranch. This would be considered a moderate impact because it would noticeably change the character of the property. The following mitigation measure is recommended:

✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through HABS/HAER documentation, reconstruction using historically materials, or similar measures, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995)

10. *The White Oak Farm would offer exhibits interpreting early ranching in southern California.* – The White Oak Farm is a historic property. Construction activities necessary for the creation of the center might directly impact contributing

elements of the cultural landscape through the introduction of incompatible structures or features, and/or disturb potential buried cultural deposits, while increased visitation might result in indirect effects from increased erosion, inadvertent damage, or vandalism. These impacts could range from negligible to major, depending on the data potential of affected sites and visitor use intensity. The following mitigation measure is recommended:

✓ Recommend that CDPR evaluate for National Register eligibility.
✓ Compliance with Section 106 of the NHPA and CEQA would be required for all construction activities that alter the historic characteristics of this property. Specifically, an inventory, evaluation, and impact assessment program would be carried out by a qualified archeologist, followed by mitigation if necessary. Mitigation measures could include avoidance, data recovery through HABS/HAER documentation, reconstruction using historic materials, or similar measures in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

11. *A visitor center would be located near the intersection of Highway 101 and Las Virgenes Road.*

– No historic properties under the care of Santa Monica Mountains National Recreation Area would be impacted. No mitigation measures for historic properties are necessary.

12. *A visitor center to be located at Malibu Bluffs.*

– Malibu Bluffs is an urban area and is in proximity to a historic Native American Indian settlement. Construction-related ground disturbance might directly impact intact subsurface cultural deposits, if present. Because of the minimal potential for affecting

previously undisturbed archeological deposits with high data potential, these impacts would be considered minor. The following mitigation measures are recommended:

✓ Prior to any ground-disturbing activities, the Malibu Bluffs visitor center site would be subject to a cultural resources investigation by a qualified archeologist, including inventory, evaluation, and impact assessment. Mitigation measures, including avoidance, data recovery, access restriction, and visitor education, would be developed for those resources that could be expected to be impacted by this component action. Monitoring by a qualified archeologist and a Native American Indian representative would accompany any ground disturbing construction. If any unanticipated materials are discovered, all ground-disturbing activities in the area would cease until the significance of the find could be determined and an appropriate course of action approved. Such action could include avoidance, preservation in place, or data recovery. As a result, impacts could be kept to minor or negligible levels.

13. A scenic coastal boat tour would be run by concession with docking points located at Santa Monica Pier and Malibu Pier—The Santa Monica Pier is the site of Loeff's Hippodrome, which is listed on the National Register of Historic Places. As noted above, docking for a boat tour at this location would result in an extremely small increase in the number of visitors to the site, which is not expected to impact Loeff's Hippodrome. No mitigation actions would be required.

14. A visitor contact station is to be located at Exposition Park—No historic properties under the care of Santa Monica

Mountains National Recreation Area would be impacted. Based on the stated proposed action, no mitigation efforts for historic properties would be undertaken by the recreation area.

15. Mulholland Drive, Topanga Canyon Boulevard, Pacific Coast Highway Malibu Canyon Road, Ventura Boulevard, and Kanan Dume Road to be designated as scenic corridors. — Road and parking area improvements might be necessary and the construction activities associated with these actions could directly affect cultural resources. Designation as scenic corridors would also likely generate increased traffic, which could create major impacts such as deterioration of setting, feeling, and other aspects of integrity. These impacts are expected to be negligible due to the existing disturbed character of the area and the limited additional access that would occur to undisturbed cultural sites. The following mitigation measures are recommended:

✓ All road improvements would be preceded by a cultural resources investigation, inclusive of inventory, evaluation, and impact assessment conducted by a qualified archeologist, followed by mitigation, if necessary. Such measures would include avoidance or data recovery. The documentation that would accompany designation would provide information that could be integrated into the management of this resource. Through the assessments and consultations that would attend such a designation, additional mechanisms, incentives, and opportunities to protect the resource from indirect impacts could be provided to reduce or eliminate these impacts. Such measures could include traffic volume control, parking control, and expanded transit options. As a result, impacts could be kept to negligible levels.



CUMULATIVE IMPACTS

The potential cumulative impacts with the implementation of the recreation alternative could be greater than any other alternative considered. However, with implementation of mitigation, the recreation alternative would result in similar negligible cumulative impacts to cultural resources as discussed under the no action alternative.

CONCLUSIONS

The recreation alternative offers a low level of protection for historic properties, reserving only 10 percent of the lands for low intensity use and 80 percent as moderate intensity, with the remaining 10 percent for high intensity. Component actions are also the most intensive in the moderate use area, likely leading to increased impacts in the zone. Under the recreation alternative, there would be a notable increase in the potential number of cultural resources that would be affected by project impacts and required mitigation. The potential for unintended damage would also increase. Impacts to cultural resources from the recreation alternative would be minor with the implementation of the mitigation measures discussed in the analysis of impacts section.

VISITOR EXPERIENCE

ANALYSIS

The recreation alternative would maintain use intensities in proportions similar to the no action alternative, with the exception of a 10 percent decrease in areas of low intensity use. This could prove to be a major negative impact for those who prefer solitude and a rustic recreational experience, but a moderate beneficial effect for those who enjoy a structured, developed recreational experience with frequent encounters with other visitors and vehicles.

While there is not a marked increase in recreational opportunities, the amount of visitor services (restrooms, formal parking, potable water, picnic areas and infrastructure) would increase, as it would be managed according to moderate or high intensity management practices. While any development would harmonize with natural and cultural settings and adhere to sustainable design practices, the proposed developments could possibly create major negative impacts for those who prefer a wildland experience. Increased visitor use would result in more traffic, noise, and crowding.

Overnight camping would be allowed in more areas, which would possibly have a minor beneficial effect on those who do not enjoy the designated camping sites. There would be a scenic coastal boat tour as in the preferred alternative, which would provide additional perspective and a moderate to major beneficial experience for the visitor who enjoy group experiences.

Educational opportunities are similar to those in the education alternative: expanded camp facilities at Circle X, accessible camp at Decker Canyon, a visitor facility at the intersection of Highway 101 and Las Virgenes /Malibu Canyon Road, and an education program at White Oak Farm. Unique to this alternative would be a visitor contact site at the Santa Monica Pier and Exposition Park. These sites would provide information and orientation to visitors on the eastern end of the recreation area and would increase awareness and visitation to the SMMNRA. Implementation of educational programs may have moderate beneficial effects on visitor experience by encouraging visitors to responsibly enjoy resources in the SMMNRA while decreasing visual and auditory intrusions.

This alternative, more than any of the others, would reduce isolation of the resources from visitors. This, over time,

would have a major negative impact on the visitor who values the scenic beauty and rarity of the Santa Monica Mountains. These impacts could be mitigated through guiding visitors to high use areas, encouraging visitor use during less busy times, limiting opportunities for parking outside of designated parking areas and providing adequate parking at, or alternative transportation to, high intensity use areas. In addition, mitigation measures could include improving existing trails and creating trails and adequate camping areas in moderate intensity use areas.

CUMULATIVE IMPACTS

Though review of available environmental analysis documents for the current and planned projects described in the cumulative impacts methodology section did not identify significant cumulative impacts to visitor experience that would result from these projects, these projects would increase development, human presence and residential areas adjacent to and within the SMMNRA. Similar to the no action alternative, cumulative impacts of the recreation alternative would be moderate to major. To those who prefer a wildlife experience, the recreation alternative would have a more substantial negative contribution to cumulative impacts because of increased facilities development combined with decreased percentage of low intensity use areas.

CONCLUSIONS

The existing range of recreational visitor experiences would be maintained. However, visitor services would be increased and improved. A range of educational opportunities would be available. These would be moderate beneficial effects on visitor experience.

Opportunities for solitude would be available only in the designated preserve areas, and that would diminish as the population grows and visitors seeking that experience increase, as this alternative does not provide for boundary adjustments. Impacts related to increased visitation could be minimized but would remain moderate to major impacts after mitigation.

LAND USE AND SOCIOECONOMIC ENVIRONMENT

Land Use

ANALYSIS

The recreation alternative would promote expansion of recreational opportunities through new recreation area development on lands previously disturbed and of low environmental sensitivity and habitat value. Recreational uses and facilities would be strategically located to ensure access and long-term preservation of natural communities. This alternative proposes no change to designated preserve areas and small alterations to the existing SMMNRA boundary. Visitor-serving uses such as multi-use trails and camping facilities would be allowed on approximately 80 percent of the NPS-owned parkland, including Zuma/Trancas Canyon, Paramount Ranch, Rancho Sierra Vista/Satwiwa, Peter Strauss Ranch, Circle X Ranch, Rocky Oaks, Castro, Franklin Canyon Ranch, Cheeseboro Canyon and Simi Hills, and Solstice Canyon. As illustrated in Figure 9 – Recreation Alternative, only 20 percent of the area would be placed under low use intensity management, while 70 percent would be in moderate use intensity management areas, and 10 percent would be under high use intensity management.



The proportion of SMMNRA land encompassed by low use intensity management areas under the recreation alternative would decrease compared to the no action alternative, from 30 to 20 percent. This decrease would increase visitor access to more of the park, which would predominantly be managed under moderate use intensity management. Although this alternative implies a more intense visitor use throughout much of the park than any of the other alternatives, inconsistencies between designated residential areas and low and moderate use intensity management areas would still occur in Los Angeles and Ventura Counties, as well as in the cities of Los Angeles, Malibu, Westlake Village, and Calabasas.

Major impacts resulting from inconsistencies between locally designated residential areas and low use intensity management areas would be similar to those discussed under the no action alternative. Due to the lower proportion of parkland under low use intensity management in the recreation alternative, these inconsistencies may be slightly decreased in portions of Los Angeles County south of Cold Creek Preserve and between Malibu Creek State Park and Zuma/Trancas Canyons along Kanan Dume Road, and in the city of Los Angeles on the east edge of Topanga State Park, which are shifted to a moderate use intensity management zone under the recreation alternative.

Although major impacts continue to occur due to inconsistencies between designated residential land use and moderate use intensity management areas, impacts in some areas may be reduced to moderate in areas of low density residential development, as discussed in the impacts analysis for the preferred alternative. The impacts analysis included for the no action alternative applies to the recreation alternative in those areas

that remain under moderate use intensity management. However, because those areas described above that are shifted to moderate use intensity management areas occur primarily in areas of low density hillside residential development, additional inconsistencies between residential land use and moderate use intensity management areas would likely be considered moderate.

The land use inconsistencies between locally designated residential areas and low and moderate use intensity management areas could be partially mitigated by close coordination between NPS and local jurisdictions during land development policy and plan amendment processes to increase the consistency of land use management approaches.

High intensity management areas under the recreation alternative would be surrounded by both designated open space and residential land, as described under the no action alternative. Designated open space and residential land that would be affected by high use intensity management areas and facilities with the recreation alternative would be similar to those described under the no action alternative, both in extent (10 percent of the SMMNRA) and in location within the SMMNRA. In addition, as discussed in the no action alternative impact analysis, high intensity management areas would be inconsistent with residential development, and would result in moderate to major impacts, depending on the type of facility or use envisioned by the NPS and the surrounding residential development density.

Negligible to minor impacts would occur in high use management areas that are already designated open space by local land use authorities depending on the focus of the open space area for urban recreation or resource protection. These inconsistencies would occur in similar areas to those identified under the no action alternative.

Negligible impacts would result from high use management areas if an open space area has the primary goal of urban recreation because such uses/facilities would not substantially detract from the existing use of the area. More substantial impact could be expected if an open space area is dedicated to resource protection, because additional development and/or use could diminish the role of the open space to protect natural resources. However, these impacts would remain minor since the high use intensity designation and facility development would only occur on already disturbed or highly used sites, or at the perimeter of the parkland, and would therefore not greatly decrease the value of the open space. In addition, high use intensity areas are not located adjacent to any locally designated habitat preservation areas, which minimizes the potential for impact to protected natural resources due to visitor use in high intensity areas or facilities. Activity within the SMMNRA would also be controlled, and would afford a higher level of protection than areas under local control. These impacts would be partially mitigated through the design of access within high use intensity management areas to direct visitor use away from areas primarily designated for resource protection.

No boundary studies are proposed under the recreation alternative. Therefore no additional inconsistencies would occur outside of the SMMNRA boundary.

CUMULATIVE IMPACTS

Cumulative impacts related to land use would be major and long-term, and are similar to those described under the no action alternative. Although the recreation alternative proposes a number of additional park facilities, they would be located throughout the project area and would not contribute to the overall development of the region.

CONCLUSIONS

The recreation alternative would promote expansion of recreational opportunities through new recreation area development on lands previously disturbed and of low environmental sensitivity and habitat value. Improvements proposed in moderate and high intensity areas would change the undeveloped character of portions of the SMMNRA.

The mitigation measures discussed in the analysis of impacts section would reduce land use impacts associated with the recreation alternative.

Population, Housing and Employment

ANALYSIS

The recreation alternative is reviewed in light of population, housing and employment projections for Ventura and Los Angeles Counties. The projections are based on the Southern California Association of Governments RCP. The regional growth forecasts were disaggregated to counties, subregions, cities and small geographic areas. The model used to produce small area forecasts allocates growth to different areas based on their relative attractiveness. These forecasts were reviewed by local planning agencies (i.e., cities and counties) for consistency with zoning and local growth constraints such as topography, and adjusted to represent the best estimate of future growth. The adjusted forecasts serve as the basis for review of each alternative, including the recreation alternative.

The general plans for each participating local planning agency identified the steep terrain of the Santa Monica Mountains as potentially undevelopable and often designated such land "open space" or, in some cases, the lowest residential density. Growth and development opportunities lie in the flat lands where vehicular access and public services are amply provided or easily

extended. Accordingly, local planning agencies use general plan policy and zoning regulations to discourage future residential, commercial, industrial and institutional development on terrain with physical constraints and natural resource value, a growth management approach reflected in the adjusted, published forecasts. The number of jobs created to staff new facilities would be small within the SMMNRA or surrounding region relative to the number of jobs in the region. Negligible impacts to population, housing, or employment would be expected because the number of jobs that would result from this alternative would not result in a detectable change to the employment opportunities in the region. For these reasons, selection of the recreation alternative is not likely to alter local and regional population, housing and employment growth forecasts.

CUMULATIVE IMPACTS

Similar to the no action alternative, no cumulative impacts would be anticipated with implementation of the recreation alternative.

CONCLUSIONS

The recreation alternative would not result in a change in population or housing within the SMMNRA or surrounding region. The number of jobs created to staff new facilities would be minimal within the SMMNRA or surrounding region. No mitigation measures are required.

Transportation

ANALYSIS

Regional and Local Highway Network

In the recreation alternative Mulholland Highway, Mulholland Drive, Topanga Canyon Boulevard, Las Virgenes Road, Malibu Canyon Road, Kanan Dume Road, and PCH would be designated as scenic

corridors. Applying the scenic corridor designation to these corridors would not cause any significant increases in traffic volumes on any of the major corridors within the recreation area.

All of the roads within and near the SMMNRA would continue to provide for visitor access. Commuter traffic patterns would not change as a result of actions taken in this alternative. Traffic volumes and the level of service provided by the roads in the SMMNRA would be similar to the no action alternative, where most of the major routes within and near the SMMNRA would be operating at capacity by the year 2015. The secondary and minor roads within the SMMNRA would continue to operate at acceptable levels of service.

The actions taken as part of this alternative would not produce any regionally significant traffic impacts. The significant traffic impacts occurring as a result of this alternative would be localized around the proposed education facilities. The traffic related impacts resulting from major facility additions or modifications included as part of this alternative are described in Table 27.

Under the recreation alternative the NPS would continue their policy of encouraging and supporting the removal of street lighting and power poles from the corridors within SMMNRA.

Public Transit

The recreation alternative does not include any actions that would directly change the amount or type of public transit service being provided within the SMMNRA. This alternative includes actions at several locations would help to promote transit use by creating new facilities that would be designed to accommodate buses, and improving some of the existing facilities so that they could accept visitors arriving by bus. These locations include the Mugu Lagoon Visitor Center, Satwiwa Native

Table 27

RECREATION ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Mugu Lagoon Visitor Center	The proposed facility would not generate any measurable amount of new vehicle trips, although it would generate several new bus trips per day. The proposed facility would have direct access from PCH including designated left and right turn lanes. A minor amount of traffic congestion would be created by traffic turning into and out of the site.
CSUCI Research and Information Facility	This facility on the outskirts of the SMMNRA would increase the volume of traffic on West Potrero and Potrero Roads and would increase the amount of traffic congestion at the major intersections along these corridors.
Expansion of Satwiwa Native American Indian Cultural Center	The expansion of the existing facility would generate a minor amount of new vehicle trips into the area on days when major activities are scheduled. This action would result in a minor increase in traffic on Potrero Road.
Expand Circle X Education Camp	Expansion of the camp would result in a minor number of new vehicle trips in this portion of the SMMNRA including one or two new bus trips. This expansion would create a negligible increase in traffic volumes on Little Sycamore Canyon Road and Yerba Buena Road.
Decker Canyon Accessible Overnight Education Center	Creation of this new facility would generate a minor amount of new vehicle trips per day into the area on days when programs are occurring. This would result in a negligible increase in traffic volumes on Decker Road, the western portion of Mulholland Highway, and Westlake Boulevard.
Scenic Coastal Tour	The coastal boat tour would begin at both the Malibu and Santa Monica Piers and travel along the coast of the SMMNRA. Visitors taking the tour would park their vehicles in existing parking areas near each pier. This tour would generate a small number of new vehicle trips into the area. The tour would result in a negligible increase in traffic volumes on PCH. Turning movements into parking areas near each pier and on-street parking maneuvers along PCH would increase during the times when tours are occurring. This action would cause a minor amount of traffic congestion during times before and after the tour when the visitors are attempting to enter or exit the parking areas.
Paramount Ranch Film History Education Center	The proposed facility improvements are expected to increase the number of visitors who stop at this location. It would create a minor increase in the traffic volumes on Cornell Road and the central portion of Mulholland Highway. It would also increase the amount of turning movements at the Cornell/Mulholland intersection. This increase in traffic would not change the Level of Service provided by the adjacent corridors nor the Cornell/Mulholland intersection.
White Oak Farm History Museum	This new facility would generate a negligible amount of new traffic into the area including one or two bus trips per day. This action would not create any measurable traffic congestion or impacts.
Northern Gateway	This new facility would create a moderate increase in traffic on Agoura Road between the site and Las Virgenes Road. It would also increase the turning movements at the signalized intersection of Agoura and Las Virgenes Roads. This new facility would not change the Level of Service provided by this intersection. This facility would not create any traffic congestion problems or notable traffic impacts.



(cont'd) **Table 27**

RECREATION ALTERNATIVE – TRAFFIC IMPACTS	
Proposed Facility Additions or Modifications	Description of Traffic Impacts
Malibu Bluffs Visitor Center	The creation of this new visitor center would create a small number of new trips into the area resulting in a negligible increase in traffic volumes on PCH. Activity at the new center would increase the turning movements at the signalized intersection of Malibu Canyon Road and PCH, but would not result in a change in the Level of Service provided by the intersection.
Pacific Coast Highway Visitor Center at Santa Monica Pier	This new visitor contact station would be located on the Malibu Pier. Visitors to this contact station would park in existing parking areas near the pier. This facility would not generate any measurable amount of new traffic to the area. It would create some additional turning movements into and out of parking lots and on-street parking spaces near the pier. This facility would not create any significant traffic congestion.
Exposition Park Visitor Information Center	This new visitor information center would be located in Exposition Park within the city of Los Angeles. This new facility would not generate any new traffic nor create any measurable traffic congestion problems.

American Cultural Center, Circle X Ranch, Decker Canyon Camp, Paramount Ranch, the Northern Gateway Visitor Center, and the Malibu Bluffs Visitor Center. These improvements would make transit service to many of the recreational destinations within the SMMNRA transit accessible. The designation of the several routes as scenic corridors would also promote tour bus activity.

Under this alternative the NPS would continue the policy of encouraging and supporting others in the development of additional public transit options for visitors to the SMMNRA and commuters passing through the SMMNRA.

► **Parking**

New paved roadside pullout parking areas would be created along the routes that would be designated as scenic corridors. These new parking facilities would allow visitors to stop and enjoy the views and other recreational activities.

New paved parking areas that include space for bus parking would be constructed at the following locations: Mugu Lagoon Visitor Center, Satwiwa Native American Cultural Center, Decker Canyon Camp, Paramount Ranch, White Oak Farm, the Northern Gateway Visitor Center, and the Malibu Bluffs Visitor Center.

CUMULATIVE IMPACTS

The modifications proposed in the various action alternatives would only generate very small traffic volume increases. These slight increases would not create measurable amounts of traffic congestion or other related traffic impacts.

CONCLUSIONS

It may be desirable at some proposed visitor use sites to provide a designated left turn lane on the adjacent roadway to minimize traffic conflicts and make site access easier.

Public Services and Utilities

ANALYSIS

Public Services

Under this alternative, the demand for fire protection services could be expected to increase when compared to current service demands. The recreation alternative proposes facility development in 16 areas within the park boundaries while maximizing recreational uses within the park. While the slight changes in management conditions alone would not be expected to change fire protection requirements, maximizing recreational land uses within the park could be perceived as creating greater fire risks than what is currently experienced within the park. According to the VSS and Los Angeles and Ventura Counties, the development of new and modified park facilities under the recreation alternative could result in a potential increase in emergency events, potentially resulting in minor impacts to fire protection services. These impacts would be mitigated through increased fire awareness for park visitors, including signage and public information, and limiting storage of combustible, flammable materials onsite. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible impacts.

With implementation of the recreation alternative, police protection services would be expected to remain similar to, or increase slightly when compared to current service levels. Based on the type of new park facilities, a significant demand on police protection services would not be required. However, a change in land uses policy with greater emphasis on recreational land uses could result in a potential increase in emergency events and consequently police protection needs. Therefore, minor impacts would be expected as a result of the

recreation alternative. These impacts would be mitigated through NPS VSS consultation with the Los Angeles and Ventura County Sheriff's Departments to ensure adequate police protection services. With implementation of the mitigation measures and development requirements, impacts would be reduced to negligible. Future development would be required to examine the potential increase in demand for fire and police protection services, in conjunction with subsequent environmental review.

Water/Wastewater

The recreation alternative proposes the development of numerous park facilities that would require an increase in potable and non-potable water demands. While the precise rate of water consumption for these facilities is not known, it is estimated that a relatively small increase in water demands compared to existing water demands would be required to support the proposed land uses and facilities. Based on discussions with the LVMWD, adequate water supplies and facilities currently exist to support the projected water demands of this alternative. In some cases, on-site groundwater wells could also supply potable water. With respect to wastewater services and facilities, the LVMWD could provide wastewater service to the new park facilities within the SMMNRA. Based upon the expected wastewater generation rates as part of the recreation alternative, the LVMWD facilities have adequate capacity and facilities to support this alternative. Alternatively, on-site sewage disposal systems could be used for most of the facilities. Based on the available capabilities provided by LVMWD, only negligible impacts to water and wastewater services are expected with the recreation alternative. These impacts could be further reduced by providing onsite groundwater wells, water storage and wastewater disposal



systems as necessary during facility planning stages. Future development would be required to examine the potential increase in demand for water and wastewater services, in conjunction with subsequent environmental review.

■ **Waste Management**

Under the recreation alternative, the level of waste management service could be expected to increase slightly from current generation rates. According to Los Angeles County, which operates the Calabasas Landfill, adequate solid waste capacity is available. Based on the relatively small amount of solid waste generated as part of this alternative, plus the available capacity of regional landfill facilities, only negligible impacts to waste management services and facilities would be expected as a result of this alternative. These impacts would be further reduced through identifying the location of the nearest solid waste facility with capacity to handle additional waste flow and confirmation of available solid waste capacity for each facility at the planning stage.

■ **Energy**

As discussed in the energy section of the Affected Environment chapter, energy resources applicable to this analysis include natural gas, electric energy and gasoline. This alternative would result in a relatively small increase in electric and natural gas consumption. The amounts of fuel used to implement this alternative would be considered negligible when compared to the consumption rate of the entire Los Angeles Basin. Moreover, the use of energy for facility construction would cease at the end of construction activities. Adequate electric and natural gas transmission facilities and capacity is available for land uses and facilities associated with this alternative. Based on the available facilities and adequate

capacity, only negligible energy impacts are expected as a result of this alternative. These impacts would be further reduced through minimizing energy consumption on park lands, confirming availability of energy supply from local utilities, and possibly producing alternative energy supplies onsite (i.e., solar or individual generators).

CUMULATIVE IMPACTS

Cumulative impacts identical to those discussed under the no action alternative would occur with implementation of the recreation alternative and would remain significant for public services and solid waste capacity, and minor for water supply and energy.

CONCLUSIONS

Impacts under the recreation alternative would be similar to those discussed for the preferred alternative. Minor impacts to fire and police protection services could be mitigated to negligible levels. Negligible impacts to water, wastewater, waste management and energy would also occur. The mitigation measures discussed in the analysis of impacts section would further reduce the level of impacts associated with the recreation alternative.

Energy consumption on parklands should be minimized.

The availability of energy supply from local providers should be confirmed prior to facility implementation. If service is questionable, onsite production of power should be encouraged using alternative sources of energy, including solar power or individual generators.

UNAVOIDABLE ADVERSE IMPACTS

Various negligible to minor adverse impacts have been identified after mitigation for soils and geology, water resources, flood plains,

biological resources, paleontology, cultural resources, visitor experience, employment, and public services and utilities. These impacts are summarized in the “Analysis of Impacts” section in each resource discussion. The impacts are not expected to have an overall effect on the respective resources. Moderate to major impacts identified for the recreation alternative were related to biological resources, visitor experience, and land use.

Proposed facilities development would have moderate adverse impacts on biological resources through vegetation removal and habitat loss. Edge effects are expected in habitats directly adjacent to developed areas and along trails, and may include elevated plant mortality and decreased usage by migratory and breeding birds. Adverse human-wildlife interactions are expected to increase with the increased spatial extent of visitor uses.

Increased visitor use in areas where new facilities are developed is expected to cause increased traffic, crowding, and noise. This may have moderate adverse impacts to visitors that prefer to experience quiet and solitude.

Inconsistencies in locally designated land uses and NPS prescribed management areas would result in moderate and major adverse impacts to land use. Major adverse impacts would occur where low use management areas overlap areas designated for residential development. Moderate to major impacts occur where moderate and high intensity use areas overlap with residential areas.

Irreversible/Irretrievable Commitment of Resource

There would be minor irreversible or irretrievable commitments of biological resources and cultural resources. Commitments would come from

vegetation, wildlife habitat, or archeological resources lost to development of permanent facilities, and on-going maintenance of roads and trails.

Impacts identified for land use would involve permanent inconsistencies once areas designated for inconsistent development under local land use plans are developed. management areas designated by NPS, however, would not result in irreversible/irretrievable commitment of resources because local land use decisions would continue to control development of property not owned by NPS. The recreation alternative encourages short-term, primarily non-consumptive, uses of biological resources (e.g., bird watching, and hiking). These uses might come at the expense of long-term productivity of habitat within the low intensity areas, which eventually would accumulate indirect affects from increased fire frequencies, increased disturbances of wildlife, and frequent incursions by visitors into all habitats within the SMMNRA boundaries. No other disciplines would be affected.

Summary of Environmental Consequences

This general management plan and environmental impact statement is conceptual in nature. The five proposed alternatives, described previously, represent alternative visions for the future management and development of the SMMNRA.

Each alternative presents conceptual visions for the recreation area in several levels of management areas: low intensity areas, moderate intensity areas, and high intensity areas. Within each alternative the management areas of community landscapes and scenic corridors are also addressed. The five management areas outline the existing

and desired resource conditions and visitor experiences that should be achieved and maintained over time in specific areas.

The development of specific facilities is also discussed at a conceptual level. It is not known at this time whether improvements such as modifications to historic structures or other buildings, site plans for new facilities, location and layout of parking improvements, etc, would occur. For that reason, the analysis of the environmental consequences for each of the five alternatives must be quite general. Many of the action items, such as facility development presented in the general management plan, would require *additional* environmental analysis, in the form of environmental assessments or environmental impact statements, prior to implementation. Many items would also require additional compliance with federal biological and cultural resources laws and regulations.

Due to the general nature of the analysis presented herein, the types of environmental impacts for each of the five alternatives is fairly similar, as shown on Table 9. Impacts result from 1) facility development, 2) proportion of types of management areas, 3) visitor usage, and 4) park maintenance. These activities are included within each alternative. The difference between the alternatives lies with the number of facility developments and intensity and location of visitor usage related to sensitive resources and required level of park maintenance activities. Therefore, the impacts and mitigation measures are similar, but the frequency and intensity of the impacts varies with each alternative.

Impacts to noise, growth, population, and housing, are not expected with any of the alternatives and no mitigation measures would be required. Negligible to minor levels of impacts to soil erosion, water quality, biological, paleontology cultural resources, employment and public services, utilities and

energy would occur with all alternatives. Implementation of the mitigation measures and further analysis of development proposals, when sufficient detail is available, would reduce impacts. Major land use impacts would occur with each of the alternatives. While the draft GMP/EIS designates management intensities that differ from lands uses designated for areas within the park in local general plans and coastal programs, the implementation of the draft GMP/EIS would have no authority over local land use decisions. GMP/EIS designations could generally result in reducing the intensity of use from commercial, industrial, residential and other uses to open space and visitor-serving facilities by influencing local land use plan revisions.

The no action alternative would result in the continuation of existing and currently planned conditions. The education alternative is more intense than the no action alternative, but would focus on educational facilities and management activities. The recreational alternative would increase high intensity use areas and intensify visitor usage and park maintenance activities.

The preservation alternative is the environmentally superior alternative. The highest priority of this alternative would be placed on the preservation of natural and cultural resources, rather than on visitor usage. Under this alternative, 80 percent of the total park acreage would be designated as a low intensity area. Only 5 percent of the total acreage would be designated as high intensity use and, aside from the no action alternative, the least amount of facility development would occur. This combination would result in the highest level of environmental protection within the SMMNRA of any of the alternatives. However, the mission statement of the SMMNRA is not only to preserve natural and cultural resources, but also to “offer

compatible recreation and education programs accessible to a diverse public.” The preservation alternative does not fully meet the goals and objectives of the SMMNRA.

The preferred alternative is an environmentally superior alternative that also best meets the goals and objectives of the SMMNRA. It would designate 80 percent of the total acreage for preservation. Fifteen percent would be designated as moderate intensity use areas and 5 percent would be designated as high intensity use areas. However, the highest number of facilities would be developed within the high intensity use areas. This combination would result in the higher frequency and intensity of impacts, but would also offer a high level of protection for natural resources.

Consultation & Coordination



*Over 70 government
and municipal entities
share jurisdiction
with the National
Park Service in the
Santa Monica
Mountains National
Recreation Area.*



CONSULTATION AND COORDINATION WITH OTHERS

History of Public Involvement

This draft document is the product of an extensive effort to involve the public in defining the future of the SMMNRA. The Santa Monica area is different from more traditional national parks and recreation areas in that people live and work within its boundaries. Unlike older park areas where long-term residents are considered “in-holders” whose property would eventually be acquired, here they are neighbors and stakeholders. For these people living in the SMMNRA their use of land is more generally regulated by local and state governments, rather than by the NPS. Two of the goals of this draft GMP/EIS are to increase neighbor awareness of the uniqueness of this area and encourage cooperation to preserve this quality. Cooperation between agencies and landowners is required to solve conflicting needs, to determine common goals, and to achieve those goals.

Throughout the planning process, the SMMNRA has requested input from the public at critical stages. Public participation in planning ensures that the SMMNRA fully understands and considers the public’s interests in the park as part of their national heritage, cultural traditions, and community surroundings. The GMP/EIS effort began in July 1997 when the planning team met to familiarize team members from outside the park with the resources, discuss issues and the scope of the plan, and create the SMMNRA mission statement. In August, a meeting was held with more than 70 public agencies associated with land management within the SMMNRA boundary, to discuss the issues and future of the park. In early September 1997, the public was formally notified of the planning effort and introduced to the planning process through publication of *Newsletter One*.

▲ View of Boney
Mountain from
Rancho Sierra
Vista/Satwiwa
(NPS photo).



Newsletter One was sent to the public in September 1997 to notify them of the planning effort and their role. This newsletter contained the new mission statement and advised the public of the schedule for the planning process. Comment forms were also distributed with that newsletter requesting views on what was valued most and how the public envisioned the park twenty years from now. The newsletter was printed in English and Spanish and posted on the National Park Service Internet site. Seven public meetings were held the week of September 22, 1997 in several locations in Los Angeles and Ventura County. Public response to the newsletter was light as was attendance at the public meetings.

In December 1997, *Newsletter Two* was distributed to the public synthesizing all the comments on issues and the future of the park that were received from the public, agency and municipal officials, and from the park staffs. The majority of responses were concerned with limiting development, and protecting the resources and character of the SMMNRA, and conflicting visitor use. Four "Visions for the SMMNRA" were created using that information. The information was enhanced and analyzed by using the overlay system of geographic information systems (GIS) software (see Appendix) to map sensitive environmental areas (e.g., threatened and endangered species, watersheds, cultural resources, etc.) These visions, or alternatives, were compiled into a color document and distributed in June 1998. Another comment form was included in that document, requesting feedback on the visions and announcing public meetings to be held late in July 1998. This newsletter was also printed in English and Spanish and put on the Internet.

Newsletter Three, Visions for the Future was sent out in June 1998, and nine public meetings were held in July to reach as many

people as possible. Media notification was intensified to generate interest. This newsletter focused on four "visions" and became the synthesis of all comments and scientific data. A comment form requested feedback on which vision was preferred. These comment forms were also distributed at the public meetings. Response from each of these venues favored a "preservation" approach that was tempered with public education to further preserve the park through generations. Attendance at the public meetings increased over the previous public meetings. Out of the approximately 4,000 newsletters that were distributed, only 200 responses were received.

All of the above newsletters were available in Spanish, and were placed on the Internet. Public meeting notices were also published in local newspapers and on local radio stations. Public meetings were held the week of September 22, 1997 at five locations in Los Angeles and Ventura Counties. Public input on the future of the SMMNRA was collected from the public meetings and the comment form included with the newsletter.

Consultation with the State Historic Preservation Office and Advisory Council on Historic Preservation

The California State Historic Preservation Office and the office of the Advisory Council on Historic Preservation were contacted in September 1997 and advised of the beginning of the general management plan and environmental impact statement. Newsletters were provided to both agencies throughout the planning process, keeping them advised of the status of the project. Both offices would be contacted prior to the release of the draft GMP/EIS. Both offices would receive a copy of draft document and a request for comments on that plan. A copy of the final GMP/EIS would be sent upon its completion.

Consultation with the American Indians

Information about the beginning of the GMP/EIS planning process was provided to affiliated or interested Native American recognized Tribes, individuals, and organizations by letter in September 1997. In April 1998, a meeting of NPS officials and staff with about 20 representatives from affiliated tribal communities and organizations was held at Peter Strauss Ranch. Numerous ideas, concerns, issues and statements of perspectives were given and discussed which have been seriously considered in the preparation of the draft plan. Future meetings will be scheduled to continue these discussions.

Consultation with the U.S. Fish and Wildlife Service

U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office (USFWS) – During preparation of this document, the NPS has coordinated informally with USFWS personnel. Although the NPS did not request a specific list of species of concern from the USFWS for this GMP, the federal species included in tables 12 and 13 were compiled using lists and information received from the USFWS for other projects in the park. These lists were provided for review to the USFWS on September 13, 2000. On September 14, 2000, the USFWS (Rick Farris) responded informally by telephone to inform the NPS that California condor and arroyo southwestern toad should be removed from the list; Riverside fairy shrimp should be added to the list; and the status of peregrine falcon should be revised to indicate “no federal status”. The NPS will incorporate any additional comments received from the USFWS on this draft document into the final GMP/EIS.

In accordance with the Endangered Species Act and relevant regulations at 50 CFR Part 402, the NPS has determined the preferred alternative may affect, but is not likely to adversely affect, any federally threatened or endangered species and has sent a copy of this GMP/EIS to the USFWS with a request for written concurrence with that determination. In addition, the NPS has committed to consult on future actions conducted under the framework described in this GMP/EIS to ensure such actions are not likely to adversely affect threatened or endangered species.

List of Agencies and Recipients to Whom Copies Will Be Sent

The draft document is being circulated to the agencies, organizations and municipalities listed below.

Federal Agencies

- Advisory Council on Historic Preservation
- Department of the Navy, Naval Air Weapons Station, Pt. Mugu
- Department of the Army, Army Corps of Engineers
- Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Geological Survey
- Department of Transportation, Federal Highway Administration
- U.S. Environmental Protection Agency
- Federal Emergency Management Agency
- Senator Diane Feinstein
- Senator Barbara Boxer
- Congressman Brad Sherman
- Congressman Elton Gallegly
- Congressman Henry Waxman
- Congressman Howard Berman



*Santa Monica Mountains National Recreation Area
Draft GMP/EIS*

State Agencies

- California Coastal Commission
- California Historic Preservation Officer
- Department of Fish and Game
- Department of Water Resources
- CALTRANS (California Department of Transportation)
- SCAQMD (South Coast Air Quality Management District)
- Sheila James Kuehl, California State Assembly, 41st District
- Mountains Restoration Trust
- National Trust for Historic Preservation
- National Parks and Conservation Association
- Sierra Club
- California Preservation Association
- Los Angeles Conservancy

Municipal and County Contacts

- Zev Yaroslavsky, supervisor 3rd District
- Las Virgenes Municipal Water District
- City of Agoura Hills
- City of Calabasas
- City of Beverly Hills
- City of Malibu City of Hidden Hills
- City of Santa Monica
- City of Thousand Oaks
- City of Westlake Village
- County of Los Angeles, Planning Division, Department of Parks and Recreation
- County of Los Angeles, Beaches and Harbors Planning Division
- City and County of Ventura, Planning Division
- Conejo Park and Recreation District
- Conejo Open Space Conservation Agency

Organizations

- Mulholland Scenic Corridor Design Board
- Resource Conservation District of the Santa Monica Mountains

A p p e n d i x e s





APPENDICES

National Park Service Enabling Legislation – Laws Affecting NPS

ACCESSIBILITY

Americans with Disabilities Act of 1990

States that all new construction and programs will be accessible. Planning and design guidance for accessibility is provided in the Architectural and Transportation Barriers Compliance Board (36 CFR Part 1191). Additionally, NPS Special Directive 83-3 states that accessibility will be proportional to the degree of development, i.e., areas of intense development, visitor centers, museums, drive in campgrounds, etc., will be entirely accessible and areas of lesser development, i.e., back country trails and walk in campgrounds, would have fewer accessibility features.

American Indian Religious Freedom Act

Declares policy to protect/preserve the inherent and constitutional right of the American Indian/Eskimo/Aleut/Native Hawaiian people to believe/express/exercise their traditional religions and calls for a now-completed evaluation of federal procedures/general objectives/policies. Statute imposes no specific procedural duties on federal agencies. Religious concerns should be accommodated or addressed under NEPA or other appropriate statutes.

Archaeological and Historic Preservation Act of 1974

Amends and updates Reservoir Salvage Act of 1960 to broaden legislation beyond dam construction. Provides for the preservation of significant scientific, prehistoric, historic, or archeological data (including relics and specimens) that might be lost or destroyed as a result of (1) the construction of dams, reservoirs, and attendant

▲ Chumash
Dancers
(NPS photo).



facilities, or (2) any alteration of the terrain caused as a result of any federal construction project or federally licensed project, activity, or program. Provides for the recovery of data from areas to be affected by federal actions.

Archaeological Resources Protection Act of 1979

Secures the protection of archeological resources on public or Indian lands and fosters increased cooperation and exchange of information between private/governmental/professional community in order to facilitate enjoyment/education of present and future generations. Regulates excavation and collection on public and Indian lands. Defines archeological resources to be any material remains of past human life or activities that are of archeological interest and are at least 100 years old. Requires notification of Indian tribes who may consider a site of religious or cultural importance prior to issuing permit. Amended in 1988 to require development of plans for surveying public lands for archeological resources and systems for reporting incidents of suspected violations.

National Historic Preservation Act of 1966 (as amended)

Declares a national policy of historic preservation, including the encouragement of preservation on the state and private levels; authorizes the secretary of the interior to expand and maintain a National Register of Historic Places including properties of state and local as well as national significance; authorizes matching federal grants to the states and the National Trust for Historic Preservation for surveys and planning and for acquiring and developing National Register properties; establishes the Advisory Council on Historic Preservation; requires federal

agencies to consider the effects of their undertakings on National Register properties and provide the Advisory Council opportunities to comment (§106). Amended in 1976 (P.L. 94-422) to expand §106 to properties eligible for as well as listed in the National Register. Amended in 1980 (P.L. 96-515) to incorporate E.O. 11593 requirements, to give national historic landmarks extra protection in federal project planning, and to permit federal agencies to lease historic properties and apply the proceeds to any National Register properties under their administration. Amended in 1992 to, among other things, redefine federal undertakings, address “anticipatory demolition,” and emphasize the interests and involvement of Native Americans and Native Hawaiians.

Native American Grave Protection and Repatriation Act

Assigns ownership or control of Native American human remains, funerary objects, sacred objects and objects of cultural patrimony that are excavated or discovered on federal lands or tribal lands after passage of the act to lineal descendants or culturally affiliated Native American groups; establishes criminal penalties for trafficking in remains or objects obtained in violation of the act; provides that federal agencies and museums that receive federal funding shall inventory Native American human remains and associated funerary objects in their possession or control and identify their cultural and geographical affiliations within 5 years, and prepare summaries of information about Native American unassociated funerary objects, sacred objects, or objects of cultural patrimony. This is to provide for repatriation of such items when lineal descendants or Native American groups request it.

Protection of Historic and Cultural Properties, E.O. 11593; 36 CFR 60, 61, 63, 800; 44 FR 6068

Instructs all federal agencies to support the preservation of cultural properties; directs them to identify and nominate to the National Register cultural properties under their jurisdiction and to “exercise caution... to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.”

Clean Air Act (as amended)

Purpose is to prevent and control air pollution; to initiate and accelerate research and development; and to provide technical and financial assistance to state and local governments in connection with the development and execution of air pollution programs. Act establishes requirements for areas failing to attain National Ambient Air Quality Standards. Provides for prevention of significant deterioration of areas where air is cleaner than NAAQS.

Coastal Zone Management Act of 1972

States national policy to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zones” (including those bordering the Great Lakes) and to encourage and assist the states (through 1977) in developing their management plans for the non-federal lands and waters of their coastal zones. NPS actions should conform to approved state coastal zone management plans to the maximum extent possible. Applicants for federal licenses and permits are required to certify that their activities are consistent with management programs of directly affected states.

Comprehensive Environmental Response Compensation and Liability Act (commonly known as Superfund)

Regulates the cleanup of hazardous or toxic contaminants at closed or abandoned sites. Establishes a fund available to states for cleanup of abandoned sites; funds come from taxes levied on designated chemical feedstocks. Government could recover cost of the cleanup and associated damages by suing the responsible parties. The act was reauthorized in 1986 under the Superfund Amendment Reauthorization Act; §120 specifies that CERCLA applies to federal facilities.

Endangered Species Act of 1973 (as amended)

Requires federal agencies to ensure that any action authorized, funded or carried out does not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modifications of critical habitat. Section 7 requires all federal agencies to consult with Interior and to... ensure that any action authorized, funded or carried out by such agenc(ies)...is not likely to jeopardize the continued existence or destruction or adverse modification of habitat of such species which is...critical.

Executive Order 11988: Flood Plain Management

Requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modifications of flood plains, and to avoid direct and indirect support of flood plain development wherever there is a practicable alternative. Directs all federal agencies to avoid, if possible, development and other activities in the 100-year (or base) flood plain. Existing structures or facilities in

such areas and needing rehabilitation, restoration, or replacement will be subject to the same scrutiny as for new facilities or structures. In the case of historic structures, this scrutiny will be but one factor in determining their preservation. Highly significant and irreplaceable records, historic objects, structures, or other cultural resources may not be located in the 500-year flood plain. No critical actions (actions for which even a slight risk is too great, such as clinics, hazardous materials storage, major fuel storage facilities, and 40,000 gpd or larger sewage treatment facilities) will occur in the 500-year flood plain.

Executive Order 11990: Protection of Wetlands

Requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Executive Order 12898 (Environmental Justice in Minority and Low-Income Populations)

This Executive Order directs federal agencies to assess whether their actions have disproportionately high and adverse human health or environmental effects on minority and low-income populations. An analysis of this topic is provided in Section 4.2.9.4.

Federal Water Pollution Control Act (commonly referred to as the Clean Water Act)

Furtheres the objectives of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and of eliminating the discharge of pollutants into navigable waters by 1985. Establishes

effluent limitation for new and existing industrial discharge into U.S. waters. Authorizes states to substitute their own water quality management plans developed under section 208 of the act for federal controls. Provides an enforcement procedure for water pollution abatement. Requires conformance to permit required under section 404 for actions that may result in discharge of dredged or fill material into a tributary to, wetland, or associated water source for a navigable river.

Marine Mammal Protection Act

Provides marine mammals with necessary and extensive protection against commercial exploitation, technology, and possible extinction. Exceptions are allowed for specific, approved research and incidental taking in the course of certain commercial fishing operations. Any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean is exempt from the moratorium on taking if such taking is for subsistence purposes or is done for the purposes of creating and selling authentic native articles of handicrafts and clothing, in each case accomplished in a non-wasteful manner.

National Environmental Policy Act of 1969

NEPA is the basic national charter for environmental protection. Establishes policy, sets goals, and provides means for carrying out the policy. Contains an "action-forcing" provision to ensure that federal agencies act according to the letter and spirit of the law. Requires a systematic analysis of major federal actions that will consider all reasonable alternatives as well as an analysis of short-term and long-term, irretrievable and irreversible, and unavoidable impacts. Also establishes the Council on Environmental Quality.

Resource Conservation and Recovery Act

Governs disposal of hazardous and/or solid waste (includes landfills) (NPS staff directive 76-20). Establishes guidelines for collection, transport, separation, recovery, and disposal of solid waste. Creates major federal hazardous waste regulatory program. Provides assistance to establish state or regional solid waste plans.

Rivers and Harbors Act of 1899

Establishes Army Corps of Engineers' regulatory authority over U.S. navigable waters. Establishes permit requirements for construction of bridges, causeways, dams, or dikes within or over navigable waters of the U.S. Bridge and causeway construction is regulated by the Transportation Secretary, while dam and dike permits are reviewed by the Corps of Engineers. §10 requires a Corps permit for construction of any "obstruction of navigable waters" of the U.S., and for any excavation, fill, or other modification to various types of navigable waters. §13 requires a Corps permit for discharge of refuse of any kind (except liquid from sewers or urban runoff) from land or vessel, into the navigable waters of the U.S. or into their tributaries. Similarly, discharge of refuse is prohibited upon the banks of navigable waters or their tributaries where the refuse could be washed into the water.

Specific Development Projects

The following projects have been identified as significant projects in the region to be included in the cumulative impacts analysis for the SMMNRA GMP/EIS. The general location of these projects is shown on Figure 13.

MUNICIPAL WATER DISTRICT PROJECTS INCLUDING LAS VIRGENES MUNICIPAL WATER DISTRICT, CALLEGUAS MUNICIPAL WATER DISTRICT, AND THE CITY OF LOS ANGELES


Creek Discharge Avoidance Study Alternatives

The project study area is located in the northwestern quadrant of the County of Los Angeles and the southeastern most quadrant of the County of Ventura, covering a very large area within the SMMNRA and SMMZ. The purpose of the project is to identify and evaluate the feasibility of implementing various alternatives to avoid the discharge of recycled water from Tapia Water Reclamation Facility (TWRF) into Malibu Creek. This action is taken to comply with provisions of the National Pollutant Discharge Elimination System (NPDES) Permit requirements issued by Los Angeles Regional Water Quality Control Board (LARWQCB). A *Draft EIR* was prepared on August 25, 1999.

Las Posas Basin Aquifer Storage and Recovery Project

The proposed project is located above the Las Posas Groundwater Basin near the city of Moorpark in central Ventura County, northwest of the SMMNRA. The project would impact natural resources in the area. The project consists of installation of 30 injection/extraction wells, a pump/hydroelectric station, and approximately 26 miles of pipeline. The precise location of facilities has not been determined, however potential areas of installation have been identified. A *Final Program EIR* was prepared in April 1995.

Table 28

 ADDITIONAL MAJOR WATER PROJECTS LOCATED WITHIN THE SMMNRA OR SMMZ	
Project Name	Project Description
Oak Park/North Ranch Recycled Water Distribution System	The system is composed of transmission pipelines, a booster pumpstation, and a storage reservoir. The source of recycled water would be the TWRF and the water would be used for landscape irrigation.
Conejo Creek Diversion	The project includes improvements to existing storage basins, conversion of an existing reservoir to reclaimed water use, a pump station, and other modifications. Reclaimed water deliveries would be used for agricultural and urban turf irrigation.
Las Virgenes Reclamation Project	Recycled water would be used for landscape irrigation in the cities of Westlake Village and Calabasas. The project uses recycled water from the TWRF. The project water would be transported through nearly 11.5 miles of pipeline.
Calabasas Recycled Water System Extension	Recycled water is distributed in the Calabasas area and is an extension of the existing recycled water facilities. The project involves over 10 miles of pipeline and the expansion of a reservoir. The source of recycled water is from the TWRF.
Sepulveda Basin Water Reclamation	This project would provide recycled water for the Sepulveda Basin. The project involves the construction of several thousand feet of pipeline.

**LOS ANGELES DEPARTMENT OF
WATER AND POWER (LADWP)**

***Hollywood Water Quality
Improvement Project***

The project involves two of the world's largest underground tanks that would store 60 million gallons of treated water with new pipelines linking the tanks to the current distribution system. Vegetation cleared during tank installation would be replanted. The tanks would be located next to the Upper and Lower Hollywood Reservoirs on the southern slope of the Santa Monica Mountains within the SMMZ.

Stone and Encino Reservoir

This project is proposed to comply with the State of California Surface Water Treatment Rule, and to improve water quality from the

Lower Stone Canyon and Encino Reservoirs. Both projects are located in the SMMZ, in "publicly owned open space." A draft EIR has been prepared.

The proposed Stone Canyon Reservoir Complex includes four components: 1) a one-million-gallon diversion structure built and buried immediately north of Upper Stone Canyon Reservoir (USCR) on the northerly portion of the property south of Mulholland Drive, 2) a new chlorination station constructed immediately south of the existing chlorination station and west USCR, including storage of one-ton containers and a chlorine gas scrubber, 3) a bypass pipeline including two tunnel segments of 1,000 feet and 1,500 feet, and 5,400 feet of submerged pipeline in Lower Stone Canyon Reservoir (LSCR), and 4) a membrane filtration plant constructed south of LSCR dam. This project may impact some trees. A tree mitigation

plan would be implemented to minimize impacts. The diversion structure and pipeline will be buried and is subject to the *Mulholland Parkway Scenic Corridor Specific Plan*.

The Encino Reservoir Complex consists of two components: 1) four 60,000-gallon surge tanks constructed and buried near the existing pump station, and 2) a complex of structures constructed parallel to the reservoir access road including a membrane filtration plant, new chlorination station, new pumping station, industrial station, and chlorine gas scrubber. The existing chlorination and pumping stations would be demolished once the new facilities are operational. This project may impact some trees. A tree mitigation plan would be implemented to minimize impacts.

PRIVATE DEVELOPMENT PROJECTS

Ahmanson Ranch

The approved Ahmanson Ranch is located within the SMMZ in the southeast corner of Ventura County, approximately seven miles east of the unincorporated community of Oak Park and adjacent to the Los Angeles County line. The development plan includes the construction of 2,700 conventional dwelling units, 350 ancillary dwelling units, 400,000 square feet of office and commercial uses, a 300-room lodge, about 10 acres of public facilities, approximately 40 acres of public parks, two public school facilities, and two golf courses on 390 acres. The project impacts natural resources, including coastal sage scrub plant communities, riparian habitats, and native grassland. The primarily urban uses would be constructed in the southeastern third of the ranch surrounded by 915 acres of community open space. Approximately 2,633 acres of the western portion of the ranch are proposed for inclusion as public open space.

The land is currently owned by Mountains Recreation and Conservation Authority and eventually to the National Park Service for public use. In addition, as part of the development agreement, 7,316 acres of open space lands outside the Ahmanson Ranch property has been sold to the Mountains Recreation and Conservation Authority for permanent open space preservation. A *Final EIR* was prepared in November 1992.

New Millenium Homes

New Millenium Homes is a multi-phased residential development of 550 homes located in the city of Calabasas, Los Angeles County in the SMMZ. A mitigated negative declaration has been prepared and was approved on February 10, 2000. The site is located south of residential developments along Ventura Freeway, west of Parkway Calabasas, east of Las Virgenes Road and commercial and industrial development, and north of natural open space. The project would impact a wetland area in the southeastern corner of the site. The affected stream is the primary tributary of the McCoy Canyon watershed and the area of impact is approximately 4,000 square feet of waters/wetland and 6,400 square feet of riparian habitat.

Pepperdine University Upper Campus Development

The project is located on the Pepperdine University campus, adjacent to the city of Malibu within the SMMNRA. The project is located in the lower portion of the campus, which consists of 230 acres of developed area. Portions of the property to the north are within the Malibu Canyon Environmentally Sensitive Habitat Area (ESHA). Proposed lower campus development consists of a total of nine components and includes both the construction of new facilities and the

expansion of existing facilities. A permit was required for the removal of two oaks. Mitigated negative declarations were prepared on July 7, 1997, for conditional use permits.

In 1999, Pepperdine received a Coastal Development Permit from the Coastal Commission to construct their long-term proposed "Upper Campus Development." The UCD proposed construction of a graduate business school complex with associated student and faculty housing and maintenance facilities on a 50-acre extremely steep site to the northwest of the current school. Over 4.5 million cubic yards of grading were approved, along with the decimation of over 14 acres of valley needlegrass and mixed grassland/coastal sage scrub. The valuable grassland was removed with no effort to salvage any part.

Salvation Army Camp

The project, located in Calabasas within the SMMNRA in Los Angeles County, proposes to replace a building with 24 sleeping rooms, a meeting room, and a small kitchen at a 640-acre existing Salvation Army Camp. The project is located in an ESHA, Significant Ecological Area (SEA) #5, and Malibu Creek is located on the project site. An oak tree permit is required. A mitigated negative declaration was prepared on February 16, 1996, for construction conditional use permits.

Mountain Gate

The Mountain Gate project is located on Stoney Hill Road in the SMMZ, adjacent to the area of potential expansion, in the Brentwood-Pacific Palisades community. The approved project would subdivide approximately 449.5 acres into 35 lots, 29 of which would be for single family homes, with lot sizes ranging from less than one acre to approximately 2.5 acres. Two lots would

be private street lots. Less than 10 percent of the site is proposed for actual development. An EIR to examine possible impacts to plant and animal life is expected to be completed in July or August, 2000.

Live Oak Ranch

The 320-acre Live Oak Ranch project site is located in the SMMZ, adjacent to the area of potential expansion, in an unincorporated portion of Los Angeles County, adjacent to the city of Agoura Hills. The eastern portion of the project site is located in SEA No. 6. The project consists of 132 single-family residential homes. Proposed development would occupy approximately 64.6 acres, while the remaining 255.4-acre ungraded portion of the site would be retained as open space. An EIR is nearly ready for public review as of August, 2000.

Lake Eleanor Hills

The Lake Eleanor Hills project was approved in 1989 and is located in the southern portion of the city of Westlake Village, within the SMMZ and area for potential expansion. The project is surrounded by open space to the north and southeast. Residential developments occur to the west and northeast. The project is a residential subdivision of 59 lots, including 52 single-family lots on 74.54 acres. An Oak Tree Permit was required. A *Final EIR* was prepared and the project is currently under construction.

Westlake YMCA

The proposed location of the Westlake YMCA is on Lindero Canyon Road in the city of Westlake Village, within the SMMZ. A draft EIR is expected to be circulated in July or August, 2000.

Rancho Malibu Hotel

The Rancho Malibu Hotel is an approved project for a 160-room hotel in the SMMNRA within the city of Malibu. A mitigation and monitoring report indicates the loss of 8.04 acres of undisturbed coastal sage scrub.

Dayton Canyon Estates

The Dayton Canyon Estates project is located in the western portion of the city of Los Angeles, adjacent to the SMMZ, in the northwestern portion of SEA No. 14. The project includes the development of 175 single-family homes on 159.2 acres. Of the 159.2 acres, 91.2 would be dedicated as permanent open space. A *Final EIR* was prepared in April 1999.

Ramirez Canyon Park

Ramirez Canyon Park is located on Ramirez Canyon Road in the city of Malibu, in Los Angeles County, within the SMMNRA. Ramirez Canyon drains into a riparian corridor designated as a blueline stream on U.S. Geological Survey quadrangle maps. The creek bisects Ramirez Canyon Park and supports a remnant riparian canopy of mature sycamores and scattered oaks on the highly modified park grounds. Ramirez Canyon Creek is designated as an ESHA on the certified Malibu/Santa Monica Mountains Land Use Plan (LUP) Resource Maps. The riparian corridor flanking the creek is designated as a Locally Disturbed Sensitive Resource (DSR) in the LUP. The approved project includes the conversion of five single family residences on six lots to use for offices and various facilities, the installation of two water tanks, onsite parking, construction of a new wastewater treatment facility and various other park improvements on 22.5 acres. A mitigated negative declaration was issued by the California Coastal Commission on March 30, 2000.

Malibu Terrace

The Malibu Terrace project was approved in 1995 and the property has recently been graded. The project is located on the west side of Las Virgenes Road, on the Ventura / Los Angeles County boundary, within the SMMNRA. Open space surrounds the project on the north, south, and west. The west side is immediately adjacent to NPS property. Oak and coastal sage scrub would be impacted. The project involves the development of 393 acres into roughly 110 single family homes, multi-family homes, and commercial development.

GOVERNMENT DEVELOPMENT PROJECTS

Coldwater Canyon Reservoir Bject

The Coldwater Canyon Reservoir project is near the city of Beverly Hills within the SMMZ. The project involves the replacement of a 70-year-old, 7.7 million gallon reservoir with a new 9.1 million gallon reservoir, as well as a 1.8 gallon reservoir on a city-owned site. Tree removal approval would be required. A *Draft EIR* was prepared on April 8, 1998.

City of Calabasas General Plan

The city of Calabasas circulated a *General Plan EIR* in September 1995 and the cumulative impacts section was considered in the SMMNRA cumulative impacts analysis.

Getty Villa Master Plan

The 64-acre Getty Villa property is located off Pacific Coast Highway, one-half mile east of the city of Malibu, immediately adjacent to Topanga State Park in the SMMNRA. The project would include the renovation and expansion of the existing facility. Some of the improvement features include the

construction of a 450-seat outdoor classical theater and two partially subterranean parking structures. Upon completion of the Getty Villa Master Plan, the total developed area on-site (previously open space with non-native vegetation) would be approximately 210,000 square feet (i.e., an additional 76,000 square feet over the existing 134,00-square feet of floor area). A *Draft EIR* was prepared in October 1997.

Calabasas Landfill

The Calabasas Landfill is located in the SMMNRA, near Agoura Hills, north of the Ventura Freeway in Los Angeles County. A special use permit (SUP) proposes the continuing operation of the Calabasas Landfill at current daily levels, accepting a maximum of 3,500 tons per day of waste, from 1995 until the landfill reaches the permitted capacity (estimated to be in 2018). Natural habitat would be affected and mitigation would occur both onsite and offsite. Specific new requirements would be made as conditions of the SUP for continuing landfill operation. An *Environmental Assessment* was prepared in September 1998, by the National Park Service.

Cost Estimates

Refer to pages 439–442 for Cost Estimates relative to each alternative.

Legislation

Refer to pages 419–425 for legislation related to the Santa Monica Mountains National Recreation Area.

Appendix of Tables

Refer to pages 426–438 for Tables: 2, 3, 4, 5, and 6.

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Register at such time as he determines that sufficient property to constitute an administrable unit has been acquired. Pending such establishment and thereafter, the Secretary shall administer the property acquired pursuant to this section in accordance with this section and provisions of law generally applicable to units of the National Park System, including the Act of August 25, 1916 (39 Stat. 535) and the Act of August 21, 1935 (49 Stat. 666).

(c) There are authorized to be appropriated such sums as may be necessary for lands and interests in lands and \$200,000 for development to carry out the provisions of this section.

Administration.

16 USC 1 *et seq.*
16 USC 461 note.
Appropriation
authorizations.

SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

SEC. 507. (a) The Congress finds that—

16 USC 460kk.

(1) there are significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits provided by the Santa Monica Mountains and adjacent coastline area;

(2) there is a national interest in protecting and preserving these benefits for the residents of and visitors to the area; and

(3) the State of California and its local units of government have authority to prevent or minimize adverse uses of the Santa Monica Mountains and adjacent coastline area and can, to a great extent, protect the health, safety, and general welfare by the use of such authority.

(b) There is hereby established the Santa Monica Mountains National Recreation Area (hereinafter referred to as the "recreation area"). The Secretary shall manage the recreation area in a manner which will preserve and enhance its scenic, natural, and historical setting and its public health value as an airshed for the Southern California metropolitan area while providing for the recreational and educational need of the visiting public.

Establishment.

Management.

(c) (1) The recreation area shall consist of the lands and waters and interests generally depicted as the recreation area on the map entitled "Boundary Map, Santa Monica Mountains National Recreation Area, California, and Santa Monica Mountains Zone", numbered SMM-NRA 80,000, and dated May 1978, which shall be on file and available for inspection in the offices of the National Park Service, Department of the Interior, Washington, District of Columbia, and in the offices of the General Services Administration in the Federal Office Building in West Los Angeles, California, and in the main public library in Ventura, California. After advising the Committee on Interior and Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate, in writing, the Secretary may make minor revisions of the boundaries of the recreation area when necessary by publication of a revised drawing or other boundary description in the Federal Register.

Description.

Boundary
revisions, notice
to congressional
committees and
publication in
Federal Register.

(2) Not later than ninety days after the date of enactment of this Act, the Secretary, after consultation with the Governor of the State of California, the California Coastal Commission, and the Santa Monica Mountains Comprehensive Planning Commission, shall commence acquisition of lands, improvements, waters, or interests therein within the recreation area. Such acquisition may be by donation, purchase with donated or appropriated funds, transfer from any Federal agency, exchange, or otherwise. Any lands or interests therein owned by the State of California or any political subdivision thereof (including any park district or other public entity) may be acquired only by

Lands, waters,
and interests,
acquisition and
consultation.

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- Federal property, transferral.** donation, except that such lands acquired after the date of enactment of this section by the State of California or its political subdivisions may be acquired by purchase or exchange if the Secretary determines that the lands were acquired for purposes which further the national interest in protecting the area and that the purchase price or value on exchange does not exceed fair market value on the date that the State acquired the land or interest: *Provided, however,* That the value of any lands acquired by the Secretary under the exception in this sentence shall be deducted from the amount of moneys available for grants to the State under subsection (n) of this section. Notwithstanding any other provision of law, any Federal property located within the boundaries of the recreation area shall, with the concurrence of the head of the agency having custody thereof, be transferred without cost, to the administrative jurisdiction of the Secretary for the purposes of the recreation area.
- Site transferral.** (3) The Administrator of the General Services Administration is hereby authorized and directed to transfer the site generally known as Nike Site 78 to the Secretary for inclusion in the recreation area: *Provided,* That the county of Los Angeles shall be permitted to continue to use without charge the facilities together with sufficient land as in the determination of the Secretary shall be necessary to continue to maintain and operate a fire suppression and training facility and shall be excused from payment for any use of the land and facilities on the site prior to the enactment of this Act. At such time as the county of Los Angeles, California, relinquishes control of such facilities and adjacent land or ceases the operation of the fire suppression and training facility, the land and facilities shall be managed by the Secretary as a part of the recreation area.
- Lands, waters, and interests, identification.** (d) (1) Within six months after the date of enactment of this Act, the Secretary shall identify the lands, waters, and interests within the recreation area which must be acquired and held in public ownership for the following critical purposes: preservation of beaches and coastal uplands; protection of undeveloped inland stream drainage basins; connection of existing State and local government parks and other publicly owned lands to enhance their potential for public recreation use; protection of existing park roads and scenic corridors, including such right-of-way as is necessary for the protection of the Mulholland Scenic Parkway Corridor; protection of the public health and welfare; and development and interpretation of historic sites and recreation areas in connection therewith, to include, but not be limited to, parks, picnic areas, scenic overlooks, hiking trails, bicycle trails, and equestrian trails. The Secretary may from time to time revise the identification of such areas, and any such revisions shall become effective in the same manner as herein provided for revisions in the boundaries of the recreation area.
- Revisions.** (2) By January 1, 1980, the Secretary shall submit, in writing, to the committees referred to in subsection (c) and to the Committees on Appropriations of the United States Congress a detailed plan which shall indicate—
- Plan, submittal to congressional committees.** (A) the lands and areas identified in paragraph (1),
(B) the lands which he has previously acquired by purchase, donation, exchange, or transfer for the purpose of this recreation area,
(C) the annual acquisition program (including the level of funding) recommended for the ensuing five fiscal years, and
(D) the final boundary map for the recreation area.

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(e) With respect to improved properties, as defined in this section, fee title shall not be acquired unless the Secretary finds that such lands are being used, or are threatened with uses, which are detrimental to the purposes of the recreation area, or unless each acquisition is necessary to fulfill the purposes of this section. The Secretary may acquire scenic easements to such improved property or such other interests as, in his judgment are necessary for the purposes of the recreation area.

Improved
properties,
acquisition.

Scenic
easements.

(f) For the purposes of this section, the term "improved property" means—

Definition.

(1) a detached single-family dwelling, the construction of which was begun before January 1, 1976 (hereafter referred to as "dwelling"), together with so much of the land on which the dwelling is situated as is in the same ownership as the dwelling and as the Secretary designates to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures necessary to the dwelling which are situated on the land so designated, and

(2) property developed for agricultural uses, together with any structures accessory thereto as were used for agricultural purposes on or before January 1, 1978.

In determining when and to what extent a property is to be treated as "improved property" for purposes of this section, the Secretary shall take into consideration the manner of use of such buildings and lands prior to January 1, 1978, and shall designate such lands as are reasonably necessary for the continued enjoyment of the property in the same manner and to the same extent as existed prior to such date.

Designation.

(g) The owner of an improved property, as defined in this section, on the date of its acquisition, as a condition of such acquisition, may retain for herself or himself, her or his heirs and assigns, a right of use and occupancy of the improved property for noncommercial residential or agriculture purposes, as the case may be, for a definite term of not more than twenty-five years, or, in lieu thereof, for a term ending at the death of the owner or the death of her or his spouse, whichever is later. The owner shall elect the term to be reserved. Unless the property is wholly or partially donated, the Secretary shall pay to the owner the fair market value of the property on the date of its acquisition, less the fair market value on that date of the right retained by the owner. A right retained by the owner pursuant to this section shall be subject to termination by the Secretary upon his determination that it is being exercised in a manner inconsistent with the purposes of this section, and it shall terminate by operation of law upon notification by the Secretary to the holder of the right of such determination and tendering to him the amount equal to the fair market value of that portion which remains unexpired.

Use and
occupancy rights,
retention.

Payment.

Termination,
notification.

(h) In exercising the authority to acquire property under this section, the Secretary shall give prompt and careful consideration to any offer made by an individual owning property within the recreation area to sell such property, if such individual notifies the Secretary that the continued ownership of such property is causing, or would result in, undue hardship.

(i) The Secretary shall administer the recreation area in accordance with this Act and provisions of laws generally applicable to units of the National Park System, including the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1 et seq.). In the administration of the recreation area, the Secretary may utilize such statutory authority

Administration.

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	<p>available for the conservation and management of wildlife and natural resources as appropriate to carry out the purpose of this section. The fragile resource areas of the recreation area shall be administered on a low-intensity basis, as determined by the Secretary.</p> <p>(j) The Secretary may enter into cooperative agreements with the State of California, or any political subdivision thereof, for the rendering, on a reimbursable basis, of rescue, firefighting, and law enforcement services and cooperative assistance by nearby law enforcement and fire protective agencies.</p> <p>(k) Notwithstanding any other provision of law, the Secretary is authorized to accept donations of funds, property, or services from individuals, foundations, corporations, or public entities for the purpose of land acquisition and providing services and facilities which the Secretary deems consistent with the purposes of this section.</p> <p>(l) By January 1, 1981, the Santa Monica Mountains National Recreation Area Advisory Commission, established by this section, shall submit a report to the Secretary which shall—</p> <p>(1) assess the capability and willingness of the State of California and the local units of government to manage and operate the recreation area,</p> <p>(2) recommend any changes in ownership, management, and operation which would better accomplish the purposes of this section, and</p> <p>(3) recommend any conditions, joint management agreements, or other land use restrictions to be contingent on any transfer of land.</p> <p>(m) The Secretary, after giving careful consideration to the recommendations set forth by the Advisory Commission, shall, by January 1, 1982, submit a report to the Commission referred to in subsection (c) which shall incorporate the recommendations of the Advisory Commission as well as set forth the Secretary's recommendations. Such report shall—</p> <p>(1) assess the benefits and costs of continued management as a unit of the National Park System,</p> <p>(2) assess the capability and willingness of the State of California and the local units of government to manage and operate the recreation area, and</p> <p>(3) recommend any changes in ownership, management, and operation which would better accomplish the purposes of this section.</p> <p>(n) (1) The Secretary shall request the Santa Monica Mountains Comprehensive Planning Commission to submit a comprehensive plan, prepared in accord with this section and title 7.75 of the California Government Code (commencing with section 67480), for the Santa Monica Mountains Zone generally depicted on the map referred to in subsection (c) of this section for approval.</p> <p>(2) The comprehensive plan shall include, in addition to the requirements of California State law—</p> <p>(A) an identification and designation of public and private uses which are compatible with and which would not significantly impair the significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits present in the zone and which would not have an adverse impact on the recreation area or on the air quality of the south coast air basin;</p> <p>(B) a specific minimum land acquisition program which shall include, but not be limited to, fee and less than fee acquisition</p>
Cooperative agreements.	
Donations.	
Report.	
Report to congressional committee.	
Comprehensive plan.	

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of strategic and critical sites not to be acquired by the Federal Government for public recreational and other related uses; and a program for the complementary use of State and local authority to regulate the use of lands and waters within the Santa Monica Mountains Zone to the fullest extent practicable consistent with the purposes of this section; and

(C) a recreation transportation system which may include but need not be limited to existing public transit.

(3) No plan submitted to the Secretary under this section shall be approved unless the Secretary finds the plan consistent with paragraph (2) and finds that—

(A) the planning commission has afforded adequate opportunity, including public hearings, for public involvement in the preparation and review of the plan, and public comments were received and considered in the plan or revision as presented to him;

(B) the State and local units of government identified in the plan as responsible for implementing its provisions have the necessary authority to implement the plan and such State and local units of government have indicated their intention to use such authority to implement the plan;

(C) the plan, if implemented, would preserve significant natural, historical, and archeological benefits and, consistent with such benefits, provide increased recreational opportunities for persons residing in the greater Los Angeles-southern California metropolitan area; and

(D) implementation of the plan would not have a serious adverse impact on the air quality or public health of the greater Los Angeles region.

Before making his findings on the air quality and public health impacts of the plan, the Secretary shall consult with the Administrator of the Environmental Protection Agency.

Consultation with
EPA.

(4) Following approval of the plan with respect to the Santa Monica Mountains Zone, upon receipt of adequate assurances that all aspects of that jurisdiction's implementation responsibilities will be adopted and put into effect, the Secretary shall—

(A) provide grants to the State and through the State to local governmental bodies for acquisition of lands, waters, and interests therein identified in paragraph (2) (B), and for development of essential public facilities, except that such grants shall be made only for the acquisition of lands, waters, and interests therein, and related essential public facilities, for park, recreation, and conservation purposes; and

Grants.

(B) provide, subject to agreements that in the opinion of the Secretary will assure additional preservation of the lands and waters of the zone, such funds as may be necessary to retire bonded indebtedness for water and sewer and other utilities already incurred by property owners which in the opinion of the Secretary would if left outstanding contribute to further development of the zone in a manner inconsistent with the approved plan developed by the planning commission.

Funds.

No grant for acquisition of land may be made under subparagraph (A) unless the Secretary receives satisfactory assurances that such lands acquired under subparagraph (A) shall not be converted to other than park, recreation, and conservation purposes without the approval of the Secretary and without provision for suitable replacement land.

Assurance
requirements.

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Grant
requirements.

Plan changes.

Comments.

Santa Monica
Mountains
National
Recreation Area
Advisory
Commission.
Establishment.
Membership.

Meetings.
Notice,
publication in
newspapers.

(5) Grants under this section shall be made only upon application of the recipient State and shall be in addition to any other Federal financial assistance for any other program, and shall be subject to such terms and conditions as the Secretary deems necessary to carry out the purposes of this section. Any jurisdiction that implements changes to the approved plan which are inconsistent with the purposes of this section, or adopts or acquiesces in changes to laws regulations or policies necessary to implement or protect the approved plan, without approval of the Secretary, may be liable for reimbursement of all funds previously granted or available to it under the terms of this section without regard to such additional terms and conditions or other requirements of law that may be applicable to such grants. During the life of the planning commission, changes to the plan must be submitted by the planning commission to the Secretary for approval. No such application for a grant may be made after the date five years from the date of the Secretary's approval of the plan.

(o) The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in the lands and waters within the Santa Monica Mountains Zone, generally depicted on the map referred to in subsection (c), and the head of any Federal agency having authority to license or permit any undertaking in such lands and waters shall, prior to the approval of the expenditure of any Federal funds on such undertaking or prior to the issuance of any license or permit, as the case may be, afford the Secretary a reasonable opportunity to comment with regard to such undertaking and shall give due consideration to any comments made by the Secretary and to the effect of such undertaking on the "findings" and purposes of this section.

(p) The Secretary shall give full consideration to the recommendations of the California Department of Parks and Recreation, the Santa Monica Mountains Comprehensive Planning Commission, and the California Coastal Commission.

(q) (1) There is hereby established the Santa Monica Mountains National Recreation Area Advisory Commission (hereinafter referred to as the "Advisory Commission"). The Advisory Commission shall terminate ten years after the date of establishment of the recreation area.

(2) The Advisory Commission shall be composed of the following members to serve for terms of five years as follows:

(A) one member appointed by the Governor of the State of California;

(B) one member appointed by the mayor of the city of Los Angeles;

(C) one member appointed by the Board of Supervisors of Los Angeles County;

(D) one member appointed by the Board of Supervisors of Ventura County; and

(E) five members appointed by the Secretary, one of whom shall serve as the Commission Chairperson.

(3) The Advisory Commission shall meet on a regular basis. Notice of meetings and agenda shall be published in local newspapers which have a distribution which generally covers the area. Commission meetings shall be held at locations and in such a manner as to insure adequate public involvement. Such locations shall be in the region of the Santa Monica Mountains and no more than twenty-five miles from it.

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(4) Members of the Commission shall serve without compensation as such, but the Secretary may pay expenses reasonably incurred in carrying out their responsibilities under this Act on vouchers signed by the Chairperson.

Compensation
and expenses.

(5) The Secretary, or his or her designee, shall from time to time but at least semiannually, meet and consult with the Advisory Commission on matters relating to the development of this recreation area and with respect to carrying out the provisions of this section.

Commission.

(r) There are authorized to be appropriated such sums as may be necessary for acquisition of lands and interests in land within the boundaries of the recreation area established under this section, but not more than \$15,000,000 for fiscal year 1979, \$40,000,000 for fiscal year 1980, \$45,000,000 for fiscal year 1981, \$10,000,000 for fiscal year 1982, and \$15,000,000 for fiscal year 1983, such sums to remain available until expended. For grants to the State pursuant to subsection

Appropriation
authorization.

(n) there are authorized to be appropriated not more than \$10,000,000 for fiscal year 1979, \$10,000,000 for fiscal year 1980, \$5,000,000 for fiscal year 1981, and \$5,000,000 for fiscal year 1982, such sums to remain available until expended. For the authorizations made in this subsection, any amounts authorized but not appropriated in any fiscal year shall remain available for appropriation in succeeding fiscal years.

(s) For the development of essential public facilities in the recreation area there are authorized to be appropriated not more than \$500,000. The Congress expects that, at least until assessment of the report required by subsection (t), any further development of the area shall be accomplished by the State of California or local units of government, subject to the approval of the Director, National Park Service.

(t) Within two years from the date of establishment of the recreation area pursuant to this section, the Secretary shall, after consulting with the Advisory Commission, develop and transmit to the Committee referred to in subsection (c) a general management plan for the recreation area consistent with the objectives of this section. Such plan shall indicate—

Management
plan, transmittal
to Congress.

(1) a plan for visitor use including the facilities needed to accommodate the health, safety, education and recreation needs of the public;

(2) the location and estimated costs of all facilities;

(3) the projected need for any additional facilities within the area;

(4) any additions or alterations to the boundaries of the recreation area which are necessary or desirable to the better carrying out of the purposes of this section; and

(5) a plan for preservation of scenic, archaeological and natural values and of fragile ecological areas.

Table 2

 NATIONAL PARK SERVICE GENERAL AGREEMENTS WITH OTHER AGENCIES AND ORGANIZATIONS	
Principal Party to Agreement	General Purpose of Agreement
Los Angeles Conservation Corps	Agreement to provide youth conservation crews to maintain park facilities
California Conservation Corps	Agreement to provide youth conservation crews to maintain park facilities
William O. Douglas Outdoor Classroom	Agreement to operate facilities at WODOC for environmental education purposes
Friends of Satwiwa	Agreement to use facilities at Satwiwa for Native American Indian programs
Friends of Satwiwa Guest Host Program	Agreement to use facilities at Satwiwa for Guest Host interpretive programs
Los Angeles Unified School District	Agreement to provide environmental education programs
Santa Monica Mountains Fund	Agreement to support funding programs for environmental education programs, and capital improvements to park facilities
Southwest Parks and Monuments Association	Agreement with NPS to support book sales and interpretation at certain parks
California Round Table on Parks, Recreation and Tourism	Agreement with the Pacific West Region to cooperate in the planning and promotion of recreation in California
State Parks and Conservancy	Agreement to collaborate on park operations
Point Mugu Naval Air Weapons Station	Formalizes NPS interest in Mugu Lagoon
Santa Monica Mountains and Seashore Foundation	Agreement to collaborate on cultural resource protection
Resource Conservation District of the Santa Monica Mountains	Agreement to cooperate in various resource planning, restoration and education projects in the SMMNRA
Ventura County Fire Department	Agreement to collaborate on fire protection programs on national park lands in SMMNRA
Los Angeles County Fire Department	Agreement to collaborate on fire protection programs on national park lands in SMMNRA
U.S. Forest Service, Angeles National Forest	Agreement to provide dispatch radio services for NPS operations in the SMMNRA
California Department of Forestry	Agreement to collaborate on fire protection programs on national park lands in SMMNRA
Ventura County Sheriff's Department	Agreement to operate Search and Rescue radio repeater on NPS property at Conejo Peak
U.S. Geological Survey	Agreement to maintain a seismology station at Simi Peak

Table 3

	NATIONAL PARK SERVICE PLANNING DOCUMENTS
Park-Wide General Plans	
<i>Santa Monica Mountains Comprehensive Plan.</i> 1979. Santa Monica Mountains Comprehensive Planning Commission, California State Parks. Plan was developed by a joint effort with the National Park Service.	
<i>Management of Parklands, Santa Monica Mountains National Recreation Area.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>General Management Plan, Santa Monica Mountains National Recreation Area.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Final Environmental Impact Statement, General Management Plan, Santa Monica Mountains National Recreation Area.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Statement for Management, Santa Monica Mountains National Recreation Area.</i> 1988. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Business Plan for Santa Monica Mountains National Recreation Area.</i> 1999. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
Area Plans	
<i>Franklin Canyon Development Concept Plan and Environmental Assessment.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Paramount Ranch Development Concept Plan and Environmental Assessment.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Paramount Ranch Cultural Landscape Report.</i> 1997. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Proposed Public Use Plan, Cross Mountain Park and Environmental Assessment.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Mulholland Scenic Parkway Corridor: A Scenic Assessment.</i> 1984. Santa Monica Mountains National Recreational Area, National Park Service, U.S. Department of the Interior.	
<i>Rancho Sierra Vista/Satwiwa Development Concept Plan and Environmental Assessment.</i> 1984. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Decker Canyon Development Concept Plan and Environmental Impact Statement.</i> 1987. Santa Monica Mountains National Recreation, National Park Service, U.S. Department of the Interior.	
<i>Zuma-Trancas Canyons Development Concept Plan and Environmental Assessment.</i> 1993. Santa Monica Mountains National Recreation, National Park Service, U.S. Department of the Interior.	
<i>Peter Strauss Ranch Development Concept Plan and Environmental Assessment.</i> 1994. Santa Monica Mountains National Recreation, National Park Service, U.S. Department of the Interior.	
<i>Draft Circle X and Malibu Springs Schematic Design/Interpretive Prospectus and Environmental Assessment.</i> 1995. Santa Monica Mountains National Recreation, National Park Service, U.S. Department of the Interior.	
<i>Draft Simi Hills Comprehensive Design Plan and Environmental Assessment.</i> 1996. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Solstice Canyon Design Charette.</i> 1998. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	



	NATIONAL PARK SERVICE PLANNING DOCUMENTS
Land Protection Plans	
<i>Land Acquisition Plan, Santa Monica Mountains National Recreation Area.</i> 1980. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Land Acquisition Plan, Santa Monica Mountains National Recreation Area.</i> 1984. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Addendum to the Land Protection Plan, Santa Monica Mountains National Recreation Area.</i> 1987, 1989 and 1991. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Proposed Land Exchange Cheeseboro Canyon/Palo Comado Canyon: Final Environmental Impact Statement.</i> 1991. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Land Protection Plan, Santa Monica Mountains National Recreation Area.</i> 1998. Santa Monica Mountains National Recreation Area National Park Service, U.S. Department of the Interior.	
Resource Management Plans	
<i>Natural Resources Management Plan and Environmental Assessment.</i> 1982. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Natural Resources Management Program: An Addendum to the Natural Resource Management Plan.</i> 1985. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Resource Management Plan.</i> 1994. Santa Monica Mountains National Recreation Area National Park Service, U.S. Department of the Interior.	
<ul style="list-style-type: none"> • (The following resource management implementation plans are detached addenda to the <i>Resource Management Plan</i>): 	
<i>Fire Management Plan and Environmental Assessment.</i> 1986. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Fire Management Plan and Environmental Assessment (1994 Revision).</i> 1994. Santa Monica Mountains National Recreation Area National Park Service, U.S. Department of the Interior.	
<i>Geographic Information System Plan.</i> 1992. Santa Monica Mountains National Recreation Area National Park Service, U.S. Department of the Interior.	
<i>Natural Resources Research Prospectus.</i> 1994. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Ranch Management Plan, Rancho Sierra Vista.</i> 1994. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Potrero Creek Restoration Plan, Rancho Sierra Vista.</i> 1994. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Scope of Collections Statement.</i> 1986. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	
<i>Water Resources Management Plan and Environmental Assessment.</i> 1984. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior (being updated in 1995).	
<i>Natural Resource Research Prospectus.</i> 1994. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.	

	<p>NATIONAL PARK SERVICE PLANNING DOCUMENTS</p>
<p>Interpretive Plans</p> <p><i>Interpretive Prospectus.</i> 1986. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior (needs revision).</p> <p><i>The Chumash: A Changing People, A Changing Land, Santa Monica Mountains NRA Environmental and Cultural Education Program.</i> 1992. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Statement for Interpretation.</i> 1993. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Wayside Exhibit Plan.</i> 1995. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p>	
<p>Recreational Studies and Plans</p> <p><i>Conceptual Trail System for the Santa Monica Mountains.</i> 1979. Santa Monica Mountains National Recreation Area, National Park Service, U. S. Department of the Interior.</p> <p><i>Existing Recreational Use.</i> 1980. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Potential Visitor Use of Urban Minority and Handicapped Populations.</i> 1981. Santa Monica Mountains National Recreation area, National Park Service, U.S. Department of the Interior.</p> <p><i>Trail Acquisition Information.</i> 1984, Santa Monica Mountain National Recreational Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Visitor Services Project, Santa Monica Mountains National Recreation Area.</i> 1993. National Park Service, U.S. Department of the Interior, Visitor Services Project Report 55, Cooperative Park Studies Unit, University of Idaho, Moscow.</p> <p><i>Museum Management Plan.</i> 1999. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Santa Monica Mountains Area Recreational Trails Coordination Project (SMMART) Final Summary Report.</i> 1997. Rivers, Trails and Conservation Assistance Program, National Park Service, U.S. Department of the Interior.</p>	
<p>Other Environmental Planning Documents</p> <p><i>Cheeseboro Canyon/Palo Comado Canyon Proposed Land Exchange Environmental Impact Statement.</i> 1991. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Environmental Assessment, Engineering Modifications to Decrease Flood Hazard of Rocky Oaks Dam.</i> 1996. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Calabasas Landfill Special Use Permit Environmental Assessment.</i> 1997. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p> <p><i>Circle X Environmental Assessment and Finding of No Significant Impact.</i> 1999. Santa Monica Mountains National Recreation Area, National Park Service, U.S. Department of the Interior.</p>	

Table 4



 CALIFORNIA STATE PARKS PLANNING DOCUMENTS	
Plans Under Development	
Point Dume State Beach	The CSP Southern Service Center would prepare a management plan for the bluff top area that would include a proposed carrying capacity for the site.
Malibu Lagoon State Beach	A Historic Landscape Management Plan for the Adamson House Grounds (under development) A Lagoon Water Level Management Plan (under development) Plans for the Restoration and Use of the Malibu Pier (under development)
Will Rogers State Historic Park	A Historic Landscape Management Plan (under development)
Future Planning Efforts	
Point Dume State Beach	Possible reclassification to a State Reserve
Point Mugu State Park	Possible boundary changes to wilderness and preserve subclassifications
Malibu Creek State Park	Possible classification (or subclassification) of Tapia Park Possible general plan amendment to address: <ul style="list-style-type: none"> • Tapia Park • White Oak Farm • Malibu Canyon • Reagan Ranch
Malibu Lagoon State Beach	Possible reclassification and subclassifications Possible general plan amendment to address: <ul style="list-style-type: none"> • Malibu Bluffs • Malibu Canyon • Watershed Management

Table 5

SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)		
Landscape	National Register Status	Component Landscapes
Santa Monica Mountains Chumash/Tongva Ethnographic District	Potentially Significant	Satwiwa/Boney Saddlerock/Point Dume/Paradise Cove Saddle Peak Muwu/Calleguas Creek/Satwiwa Shrine Humaliwu/Talapop/Medea Creek Castle Peak/El Escorpion Burro Flats Seminole Hot Springs Upper Topanga Whales Eye
Rancho Sierra Vista	Potentially Significant	Ranch Center North Ranch Center
Solstice Canyon	Potentially Significant	Keller House Tropical Terrace Ruins
Simi Hills Historic Ranching District	Potentially Significant	Cheeseboro Canyon Morrison Ranch
Franklin Canyon	Potentially Significant	(none)
Reagan Ranch	Undetermined	(none)
Peter Strauss Ranch	Draft Nomination Prepared 2/94	(none)
Paramount Ranch	Determined Eligible 6/8/94	(none)
De Anza Trail	Determined Significant	(none)
Mason Homestead	Potentially Eligible	(none)
Stunt Ranch Homestead	Potentially Eligible	(none)
Topanga Canyon	Potentially Eligible	(none)
General Threats to Cultural Landscapes		
<p>General threats to cultural landscapes include structural deterioration, park development and operations, neglect, vandalism, and the impact of visitors. For example, historic and prehistoric artifacts such as antique nails and equipment parts, building debris and stone tools, all of which help to define the context for a cultural landscape, might be picked up by visitors. The effects of neglect and structural deterioration on landscape features could result from failure to maintain these features that are subject to the natural processes of aging and decay. Wooden fences, for example, would deteriorate from long-term exposure to the elements. Historic vegetation would eventually disappear as part of its natural life cycle. Therefore, features such as historic orchards would need to be maintained or replanted. Park operations could negatively impact historic trails and roads as they are converted to other uses or obliterated for other purposes.</p> <p>When strategic considerations of these threats are incorporated into long-term management plans, they could help reduce the deterioration of the cultural landscape over time and enhance the quality of the landscape's contribution to the park environment.</p>		

 <p style="text-align: right;">SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)</p>	
The Nature of Cultural Landscapes in the SMMNRA	
<p>Within the Santa Monica Mountains National Recreation Area, the National Park Service owns lands or intends to acquire interests in lands that contain 29 cultural landscapes that are listed, eligible, or appear to be potentially eligible for listing on the National Register of Historic Places (NRHP). As the CLI progresses, identification and assessment of cultural landscapes in the park would be updated and refined.</p> <p>Cultural landscapes within NPS-owned/managed lands in Santa Monica Mountains National Recreation Area could be identified by their connection with particular historic land uses that revolve around general themes of the National Park Service Thematic Framework (1996). The indigenous Chumash and Gabrielino/Tongva peoples have occupied the lands of the Santa Monica Mountains since prehistoric times. During the 19th century, farms and cattle ranches were established in the area, and in the 20th century, the Santa Monica Mountains down to the coast were built up for recreational and commercial uses. Each cultural landscape contains component features that include barns, corrals and fences, farmhouses, archeological sites, roads and trails, water-management structures, introduced vegetation and landscaping. Ethnographic landscapes in the park include natural features such as traditionally used plants, and sacred sites that were important in the lives of native inhabitants of the past, and are still used today. All of these landscape features possess tangible evidence of the activities and habits of the people who occupied, developed, used and shaped the land to serve their needs. The dynamic processes of landscape evolution in the Santa Monica Mountains region have resulted in physical and temporal overlap of a variety of cultural landscapes.</p>	
Individual Landscape Descriptions*	
Landscape Name:	Rancho Sierra Vista
Landscape Type:	Historic Vernacular Landscape
Historic Context:	Developing the American Economy, Expressing Cultural Values
Period of Significance:	1936 – 1946
Area of Significance:	Agriculture, Conservation, Architecture
<p><u>Importance:</u></p> <p>The area covered by Rancho Sierra Vista has been used for agriculture since the mid-1800s. Uses have progressed from raising livestock to farming grain to harvesting lemon and avocado orchards in the 20th century. It has recently been used as a horse ranch. The ranch contains distinctive buildings from the 1930s – 1940s era, along with remnants of the historic lemon orchard, eucalyptus, and pastures. The Beale water management structures have survived, and many of the original roads still exist. It is a potentially significant cultural landscape as a good example of a typical Los Angeles ranch from the 1930s and 1940s.</p> <p><u>Threats:</u></p> <p>Structural deterioration, destructive eucalyptus, and conflicting management priorities potentially exist between restoration of the natural community vs. the cultural landscape.</p>	

* NOTE: Historic contexts according to NPS thematic framework (1996); Areas of Significance according to National Register Guidelines.

SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)	
Individual Landscape Descriptions* (cont'd)	
Landscape Name:	Peter Strauss Ranch
Landscape Type:	Historic Designed Landscape
Historic Context:	Creating Social Institutions and Movements
Period of Significance:	1926 – 1950
Area of Significance:	Entertainment, Recreation
<p>Importance:</p> <p>What is now known as the Peter Strauss Ranch began as a cultural landscape devoted to recreation since the mid-19th century, when residents from the San Fernando Valley would visit the area. During the 20th century, the 64.32-acre site was designed as the country retreat of famous racing car designer, Harry A. Miller. Miller added a gate tower, aviary and petting zoo, horse trails and a fruit orchard. During the 1930s through the post WWII years, the property was further developed as the Lake Enchanto amusement park. Additional landscape elements that were designed for the park included a large circular swimming pool, stone terraced hillside, outdoor terrazzo dance floor, amusement rides, a pony barn, and small buildings that comprised a children's mock "western" town. The hiking and horse trails system was also expanded, and a dam was built across Triunfo Creek to create Lake Enchanto. Parking lots were constructed along with picnicking facilities. Lake Enchanto was a popular amusement park well into the 1950s, at which time Disneyland rose in popularity.</p>	
<p>Threats:</p> <p>Structural deterioration and neglect, lack of professional expertise to evaluate resources and conflicting management priorities potentially exist between restoration of the natural community vs. the cultural landscape.</p>	
Landscape Name:	Cheeseboro and Palo Comado Canyons
Landscape Type:	Historic Vernacular Landscape
Historic Context:	Developing the American Economy, Expressing Cultural Values
Period of Significance:	1824 – 1920
Area of Significance:	Agriculture
<p>Importance:</p> <p>Cheeseboro and Palo Comado Canyons were part of the Simi and Las Virgenes ranchos from California's Mexican period in the early 19th century. Ranching and the raising of livestock were well established by the mid-1860s and by the turn of the century sheep and cattle continued to graze in the hills above the canyons. The area possesses numerous cultural resources that are associated with its ranching history and may constitute a significant cultural landscape.</p>	
<p>Threats:</p> <p>Management priorities, lack of professional expertise to evaluate cultural landscape resources, adjacent urban development, and fire management practices potentially exist as threats.</p>	

* NOTE: Historic contexts according to NPS thematic framework (1996); Areas of Significance according to National Register Guidelines.



SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)	
Individual Landscape Descriptions* (cont'd)	
Landscape Name:	Morrison Ranch
Landscape Type:	Historic Vernacular Landscape
Historic Context:	Developing the American Economy, Expressing Cultural Values
Period of Significance:	1904 – 1920
Area of Significance:	Agriculture
<p><u>Importance:</u></p> <p>The Morrison Ranch is a component landscape in the Cheeseboro/Palo Comado Canyons historic ranching district. It was once part of the Las Virgenes land grant. In 1904, rancher John W. Morrison purchased 724 acres. He raised horses and cattle on the ranch between 1910 and 1920. It was developed as a cattle ranch prior to 1880, and was used as such well into the middle of the 20th century. The site contains the remains of a ranch house, corral, dam, fencing, rangeland, and a number of outbuildings. Morrison Ranch is an important physical link to the area's ranching past.</p> <p><u>Threats:</u></p> <p>Structural deterioration and neglect, inadequate visitor information, and fire management practices potentially exist as threats.</p>	
Landscape Name:	Paramount Movie Ranch
Landscape Type:	Historic Vernacular Landscape
Historic Context:	Expressing Cultural Values
Period of Significance:	1920 – 1945
Area of Significance:	Entertainment
<p><u>Importance:</u></p> <p>The 680-acre cultural landscape of the Paramount Movie Ranch is important as the best remaining example of a movie ranch used by the large movie studios in the 1920s, 1930s, and 1940s.</p> <p><u>Threats:</u></p> <p>Impacts from concessionaires, inadequate visitor information, impediments to interpretation for a quality visitor experience, inadequate visitor services at the site, and development by filming concessionaires potentially exist as threats.</p>	

* NOTE: Historic contexts according to NPS thematic framework (1996); Areas of Significance according to National Register Guidelines.

SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)	
Individual Landscape Descriptions* (cont'd)	
Landscape Name:	Chumash Archaeological District
Landscape Type:	Ethnographic Landscape
Historic Context:	Peopling Places – Western Archaic Adaptations/Prehistoric Settlements and Settlement Patterns, Ethnohistory of Indigenous American Populations/Native Cultural Adaptations at Contact
Period of Significance:	
Area of Significance:	Archeology
<u>Importance:</u> A potentially significant ethnographic landscape exists in the Santa Monica Mountains that has been determined as traditionally important by the Gabrielino/Tongva and Chumash tribes. Locations of primary importance are situated between Point Mugu and Malibu. Heavy concentrations of prehistoric archeological sites are part of this landscape, and have been important to indigenous peoples since the mission days in the 18th century.	
<u>Threats:</u> Fire management practices, adjacent urban development, and visitation pose potential threats.	
Landscape Name:	Franklin Canyon
Landscape Type:	Historic Vernacular Landscape
Historic Context:	Developing the American Economy
Period of Significance:	
Area of Significance:	Agriculture, Conservation, Engineering
<u>Importance:</u> Franklin Canyon contains a cultural landscape that is potentially significant for its association with the Doheny family who developed the canyon for agriculture with the Department of Water and Power.	
<u>Threats:</u> Fire management, adjacent urban development, and lack of cultural landscape expertise for property inventory and evaluation exists as potential threats.	
Landscape Name:	Solstice Canyon
Landscape Type:	Historic Vernacular Landscape
Historic Context:	Peopling Places
Period of Significance:	1850
Area of Significance:	Agriculture, Conservation, Engineering
<u>Importance:</u> Solstice Canyon contains a stone house believed to be the oldest structure in the Santa Monica Mountains National Recreation Area.	

* NOTE Historic contexts according to NPS thematic framework (1996); Areas of Significance according to National Register Guidelines.

SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)	
Priorities for CLI Work	
<ul style="list-style-type: none"> • <u>Chumash Archaeological District – Level I CLI and Ethnographic Assessment</u>: to determine important landscape characteristics. • <u>Rancho Sierra Vista – Level I CLI</u>: In light of the <i>Ranch Management Plan</i> for Rancho Sierra Vista, inventory work is suggested to determine its potential significance as a cultural landscape. • <u>Peter Strauss Ranch – Level I CLI</u>: In light of the <i>Development Concept Plan</i> of 1994, the property should be reassessed for its potential significance as a cultural landscape. • <u>Cheeseboro and Palo Comado Canyons – Level I CLI</u>: Cheeseboro and Palo Comado Canyons should be inventoried to identify cultural landscape values. • <u>Morrison Ranch – Level I CLI</u>: The comprehensive design plan for the Simi Hills (August 1996) recommends an in-depth cultural landscape field survey be conducted in the Cheeseboro/Palo Comado Canyons to identify landscapes associated with the ranching history. Morrison Ranch, a component of this landscape, may be an important interpretive facet for the development of this area for visitors. • <u>Paramount Movie Ranch</u>: Data entry should be made into Cultural Landscapes Automated Information Management System. • <u>Franklin Canyon – Level I CLI</u>: Inventory should be done to identify all cultural landscape values and make a preliminary judgement with regards to historic integrity of the landscape. • <u>Solstice Canyon – Level I CLI</u>: Inventory work should be conducted to determine if there is a cultural landscape associated with the historic building. 	
Related Documentation Reviewed	
<ul style="list-style-type: none"> • <i>Draft/Final EIS supplement</i> (1982) • <i>Environmental Assessment</i> (Simi Hills 1996) • <i>Archaeological Studies Report</i> • <i>Administrative History</i> • <i>Historical Overview</i> • <i>General Management Plan</i> • <i>Archaeological Base Map</i> • <i>Fire Management Plan</i> • <i>Cultural Resource Study</i> • <i>Resource Management Plan</i> (1994) • <i>Historic Structure Report</i> • <i>Historic Resource Study</i> (HRS) • <i>Statement for Management</i> • <i>Special Resource Management Plan</i> (for Rancho Sierra Vista) • <i>Cultural Resource Management Plan</i> • <i>Special Resource Study</i> (Rancho Sierra Vista) • <i>Vegetation Management Plan</i> • <i>Ethnographic Assessment Study</i> • <i>Genealogy Study</i> by M. Crespi • <i>List of Classified Structures</i> • <i>National Register Nomination forms</i> • <i>Interpretive Prospectus</i> • <i>Superintendent's Annual Report</i> • <i>HABS/HAER</i> • <i>Land Protection Plan</i> • <i>Cultural Landscape Report</i> • <i>Other</i> • <i>Development Concept Plan</i> (for Peter Strauss Ranch) 	

SMMNRA CULTURAL LANDSCAPE INVENTORY (Partial listing)	
RESEARCH NEEDS*	
Known	
<ul style="list-style-type: none"> • Period of significance areas if significant • Comparable landscapes within the region by which to assess relative integrity and significance • Historic overview • Pertinent mechanisms of technology • Important events that coincide with historic occupation • Significant people associated with the landscape • Important land uses (historic and current uses and functions) • Historic theme and subtheme (from NPS publication) • Location • Setting • Size • Local contexts 	
Needed	
<ul style="list-style-type: none"> • Historic integrity (qualities of integrity) • Cultural change from great events • Ethnographic assessment study • Associated groups • Archeological sites (recorded sites or studies) • Cultural values (historic and non-historic) • Stabilization costs • Soils analysis • Botanical analysis • Historic vegetation study • Hydrology study • Historic roads study • Historical relationship of features • Current regional context, including adjacent lands influence • Regional context (physiographic, cultural, political) • All landscape characteristics and features • Knowledge of the physical landscape, including character defining features • Historic legal boundaries (title searches) • Structural history (alterations, physical changes over time, etc.) • Significance and significance level • Historic integrity (qualities of integrity) • Cultural landscape history • Important landscape processes (settlement history, economic history, technological changes, environmental changes) • Property and occupant history • Historic contexts needed for the recreational theme • Historic resources study 	

* For all cultural landscapes except Paramount Movie Ranch, for which a Cultural Landscape Report has been prepared that includes the information below.

Table 6

LIST OF CLASSIFIED STRUCTURES		
NAME	IDLCS	Management Category*
Paramount Ranch		
Paramount Movie Ranch Fire Patrol Station	59685	B
Paramount Movie Ranch Mess-Hall-Kitchen	59681	B
Paramount Movie Ranch Prop Storage Shed	59686	B
Paramount Movie Ranch Mill Carpenter Shop	59682	B
Paramount Movie Ranch Prop Storage Shed	59684	B
Paramount Movie Ranch Livestock Barn	59683	B
Paramount Movie Ranch Equipment Storage Garage	59687	B
Paramount Movie Ranch Medea Creek Bridge	59889	B
Paramount Movie Ranch Main Roads	59691	B
Peter Strauss Ranch		
Peter Strauss Ranch Guest House	59936	B
Peter Strauss Ranch Main House	59926	B
Peter Strauss Ranch Storage Shed	59937	B
Peter Strauss Ranch Stone and Concrete Terracing	59927	B
Peter Strauss Ranch Watchtower/Gatetower	59928	B
Peter Strauss Ranch LiveOak No. 6/Boundary Marker	59931	B
Peter Strauss Ranch Entrance Arch	59932	C
Peter Strauss Ranch Swimming Pool	59933	C
Peter Strauss Ranch Water Tank	59935	B
Peter Strauss Ranch Terrazzo Dance Floor	59935	C
Peter Strauss Ranch Aviary	59939	B
Peter Strauss Ranch Amphitheater	59940	C
Peter Strauss Ranch Petting Zoo	59941	C
Peter Strauss Ranch Spillway Bulkheads/Abutments	59942	B
Peter Strauss Ranch Retaining Walls	59908	C
Rancho Sierra Vista		
Rancho Sierra Vista Barn	59748	B
Simi Hills		
Morrison Ranch House	59747	B
Solstice Canyon		
Keller House	59749	B

* Management Categories:


Category A – Structures that **MUST** be Preserved and Maintained.


Category B – Structures that **SHOULD** be Preserved and Maintained.

Category C – Structures that **MAY** be Preserved and Maintained.

Archaeological Sites on the National Register: Decker Canyon, Saddle Rock.

Appendixes
Cost Estimates

		COST ESTIMATE (1 of 6)
Actions Common to All Alternatives		
• Environmental Education Center at Solstice Canyon		3,500,000.
• Complete Backbone Trail		6,000,000.
• Rancho Sierra Vista educational facility for contemporary and Native American culture		1,173,000.
• Coastal education center at Leo Carrillo State Beach		CDPR cost
• Staging area at Cheeseboro Canyon		4,488,000.
• Expanded educational camp at Temescal Canyon		SMMC cost
• Mission Canyon trailhead toilet, parking, interpretive facilities		SMMC cost
• Solstice Canyon Steelhead Trout re-introduction		1,500,000.
• Natural resources studies		6,520,020.
• Cultural resources studies		656,869.
TOTAL:		\$ 23,837,889.

		COST ESTIMATE (2 of 6)
No Action Alternative		
• Natural resources studies (continuing operations)		\$ 6,520,020.
• Cultural resources studies (continuing operations same as above)		656,869.
TOTAL:		\$ 7,176,889.

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COST ESTIMATE (3 of 6)	
Preferred Alternative	
• Steelhead Trout re-introduction in Malibu Creek and Arroyo Creek watersheds (Malibu Creek will be done by the Corps of Engineers.)	\$ 500,000.
• Circle X Ranch primitive overnight camp with expanded activities for group camping	350,000.
• Leo Carrillo State Beach campground (rehabilitate)	CDPR cost
• Paramount Ranch Film History Education Center	4,000,000.
• White Oak Farm interpretive and educational programs	CDPR cost
• Rancho Sierra Vista barn (adaptively re-used)	450,000.
• Scenic coastal boat tour	(concession)
• Visitor/education center at Malibu Bluffs (joint funding between CDPR and NPS)	5,722,000.
• Gillette Ranch joint administration, environmental and cultural education center	2,000,000.
• Rehabilitation of 415 PCH to visitor/education center (joint project with State of California or City of Santa Monica)	2,612,260.
• Visitor Information site at LAX (exhibit design and production)	100,000.
• Expanded educational day camp facilities at WODOC	300,000.
• Visitor Information site at El Pueblo	100,000.
• Interpretive tour shuttle for scenic loop of Mulholland Highway, PCH, and Malibu Canyon Road	1,125,000.
TOTAL:	\$ 17,259,260.

COST ESTIMATE (4 of 6)	
Preservation Alternative	
• Steelhead Trout re-introduction	\$ 2,500,000.
• Restore the Morrison Ranch House and cultural landscape	250,000.
• Mugu Lagoon Visitor Education Center	3,500,000.
• Rehabilitate Leo Carrillo State Beach campground	CDPR cost
• Paramount Ranch Film history/administrative center	4,000,000.
• Visitor Center at Malibu Bluffs	5,722,000.
• Expanded educational day camp at WODOC	300,000.
• Circular scenic tour route (concessions)	1,125,000.
TOTAL:	\$ 17,397,000.

Appendixes
Cost Estimates

COST ESTIMATE (5 of 6)	
Education Alternative	
• Interpretive site at Burros Flat (trails, wayside)	\$ 60,000.
• Mugu Lagoon Visitor Education center	3,500,000.
• Circle X Ranch overnight education camp costs	200,000.
• Rehabilitate campground at Leo Carrillo Beach	CDPR cost
• Decker Canyon overnight accessible environmental education camp	3,545,500.
• Peter Strauss Ranch facility improvements, parking, and circulation	744,000.
• Restoration of Morrison Ranch house and cultural landscape	250,000.
• Paramount Ranch	4,000,000.
• Rancho Sierra Vista barn (adaptively re-used)	450,000.
• Northern Gateway Visitor Education Center	6,000,000.
• Overnight education camp at Corral Canyon	530,000.
• Visitor contact at Griffith Park	100,000.
• Scenic corridor waysides	1,500,000.
• Gillette Ranch joint administration, environmental, and cultural education center	2,000,000.
• Visitor Center at Malibu Bluffs	5,722,000.
• Rehabilitation of 415 PCH to visitor/education center (joint project with State of California or City of Santa Monica)	2,612,260.
• Expanded educational day camp facilities at WODOC	300,000.
TOTAL:	\$ 31,513,760.

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Draft GMP/EIS*

COST ESTIMATE (6 of 6)	
Recreation Alternative	
• Mugu Lagoon Visitor Education Center	\$ 3,500,000.
• Circle X Ranch expanded facilities	200,000.
• Rehabilitate campground at Leo Carrillo State Beach	CDPR cost
• Decker Canyon accessible overnight education camp	3,545,500.
• Paramount Ranch Film History Museum	4,000,000.
• White Oak Farm education and interpretive exhibits	CDPR cost
• Northern Gateway Visitor Center	6,000,000.
• Malibu Bluffs Visitor Education Center (joint funds from CDPR and NPS)	5,722,000.
• Scenic coastal boat tour	(concession)
• Visitor contact station at Exposition Park	100,000.
	<hr/>
TOTAL:	\$ 23,067,500.

Glossary

ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AFY	Acre Feet per Year
APE	Area of Potential Effect
ARPA	Archeological Resources Protection Act
AST	Arroyo Southwestern Toad
CALTRANS	California Department of Transportation
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
COSCA	Conejo Open Space Conservation Authority
CSP	California State Parks
CSUCI	California State University Channel Islands
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DB	Decibel
DBA	A-weighted Decibel
DSR	Disturbed Sensitive Resource
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESHA	Environmentally Sensitive Habitat Area
FHWA	Federal Highways Administration
GIS	Geographic Information Systems
GMP	General Management Plan
HABS / HAER	Historic American Buildings Survey / Historic American Engineering Record
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
Interim Plan	Malibu/Santa Monica Mountains Interim Area Plan
LADWP	Los Angeles Department of Water and Power
LARWQCB	Los Angeles Regional Water Quality Control Board
LCP	Local Coastal Plan
Leq	Equivalent Sound Level
Leq(h)	Hourly Equivalent Sound Level
LOS	Level of Service
LSCR	Lower Stone Canyon Reservoir
LUP	Land Use Plan
LVMWD	Las Virgenes Municipal Water District
MRCA	Mountains Recreation and Conservation Authority
MWD	Municipal Water District



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NAC	Noise Abatement Criteria
NAP	North Area Plan (Santa Monica Mountains)
NCCP	Natural Communities Conservation Planning
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
OS	Open Space
PAL	Parks as Laboratories
PCH	Pacific Coast Highway
POS	Public Open Space
RCP	Regional Comprehensive Plan
RMP	Regional Management Plan
RMP	Resource Management Plan
RTP	Recreational Transit Program
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments
SEA	Significant Ecological Area
SHPO	State Historic Preservation Office
SMMC	Santa Monica Mountains Conservancy
SMMZ	Santa Monica Mountain Zone
SMMNRA	Santa Monica Mountains National Recreation Area
SUP	Special Use Permit
TWRF	Tapia Water Reclamation Facility
USCR	Upper Stone Canyon Reservoir
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VCFCDD	Ventura County Flood Control District
VCOG	Ventura Council of Governments
VOC	Volatile Organic Compound/Chemical
VPD	Vehicles Per Day
VSS	Visitor Safety Services
WODOC	William O. Douglas Outdoor Classroom

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